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SAN FRANCISCO PUBLIC SCHOOLS

DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

BULLETINS

TABLE OF CONTENTS

5. Summary of Activities, 1929-1929
6. Pupil Progress Through the Ages as Shown by Age-Grade Distribution
7. [Missing]
8. Forecast of San Francisco Public School Enrollment
9. Special Surveys:
    - Reading Program – Grades 4, 5, and 6 – Fall Term 1928
    - Survey of Mental Ability in the High 6 Grade
    - Survey of the Commodore Stockton School (Chinese Pupils in Grades 1 to 6)
    - Retardation in the Low 1 Grade
10. Francisco Junior High School Achievement Survey
11. [Missing]
12. Certification and Training of San Francisco Teachers – Facts Concerning Enrollment
13. [Missing]
14. Teacher Load in San Francisco Junior High Schools, Spring Term, 1929-1930
15. Program Problems and Practice in Senior High Schools of San Francisco
16. The Mental Ability of Pupils Entering the First Grade as Measured by the Pintner-Cunningham Group Mental Test
17. [Missing]
18. Garfield School Survey
19. [Missing]
20. Summary of Testing Program, End of Spring Term, 1930
21-23. [Missing]
24. A Study of the Age and Ability of Pupils Entering and Leaving Junior High School, End of Fall 1930 Term
25. Survey of Achievement in the San Francisco Public Schools, High Third, High Fourth, High Fifth and High Sixth Grades, November 1930
26. Age and Mental Ability of Pupils Leaving the High Eighth Grades of San Francisco Elementary Schools, November 1930 Survey
27. Reading Ability in the Low Second Grade as Measured by the Gates Primary Reading Tests, Fall Term, 1931
28. The Written Examination for Applicants for Junior and Senior High School Positions
29. Resume of Activities, 1930-1931
30. Principals' and Teachers' Hand Book on Utilization of Test Results for Use in the San Francisco Public Schools, August 1931
31. The Remedial Reading Program in the Primary Grades, Spring Term 1931
32-33. [Missing]
34. Class Size, San Francisco High Schools, Fall Term, 1931-1932
35. The Competitive Examination Plan for Junior High, Continuation, and Senior High School Positions in the San Francisco Public Schools
36. [Missing]
37. Survey of Evening Schools
38-45. [Missing]
46. Class Size, San Francisco Junior High Schools, Fall Term, 1932-1933
47. Class Size, San Francisco High Schools, Fall Term, 1932-1933
48-55. [Missing]

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SUMMARY OF ACTIVITIES

1928 -- 1929

Bulletin #5

July 15, 1929

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OFFICE OF THE SUPERINTENDENT

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For the information of the staff of the Superintendent, principals, teachers, and workers in departments similar to our own, we submit this brief summary of activities of the past year.

Many of the subjects dealt with here in summary will be treated as separate bulletins in the near future.

S U M M A R Y O F A C T I V I T I E S

1928 - 1929

I. TESTS, MEASUREMENTS, AND CLASSIFICATION OF PUPILS

A. City Wide Program

B. Special Test Projects
   1. Junior Primary
   2. Francisco Junior High Achievement Survey
   3. Balboa High School Survey

C. Age-Grade Study

II. CURRICULUM REVISION

A. Elementary

B. Junior High

C. Part Time

D. Administrative committees

III SCHOOL BUILDING PROBLEMS

A. Studies of School Population
   1. Pin Maps
   2. Forecast of School Population
   3. Distribution of Junior High School Population
   4. Distribution of High School Population
   5. Distribution of Fairmount Elementary Population
   6. Boundary between Mission and Balboa High School Districts
   7. Study of Junior High School Population
   8. Probable Enrollment of Polytechnic as a Junior High School

B. Location of Buildings
   1. Moving Crocker Junior High School to Dudley-Stone Building
   2. Commodore Sloat vs Aptos as a site for a Junior High School
   3. Location of Junior High School Accommodations for Students residing in the Noe Valley, Fairmount and Bernal Districts

C. Analysis and Evaluation of Building Plans

D. Miscelaneous Problems in School Housing
   1. Size of High School Recitation Rooms
   2. Addition to the Horace Mann School
   3. Auditorium survey
   4. School Housing situation in Patrick Henry, Daniel Webster, and Irving M. Scott districts.
   5. Administration Building

E. Building Survey-Preliminary Statement

IV. ADMINISTRATIVE RESEARCH

1. Professional Training, Certification, and Experience of San Francisco Principals
2. Standards for the Selection of Principal in Representative Large Cities
3. Suggested Standards for Administrative Officers in the San Francisco Public Schools.
4. Technique for Selection of Text Books.
5. Trend of Teacher Load in Part Time High School.
6. Teacher Load in the High School
7. Size of Evening School Classes
8. Educational and Financial Statistics of Selected California School Districts
9. Tenth Year at Daniel Webster Junior High
10. Teacher Absence
11. Organization of San Francisco Public Schools
12. Commodore Stockton Survey
13. Gough Survey
14. Lilienthal Survey
15. Duties of a Supervisor and a Director
16. Size of Classes in High School and Part Time

V. ATTENDANCE STATISTICS

VI. MISCELLANEOUS

1. Corporal punishment record card
2. Test Approval Record Card
3. Statistical Report Blanks
4. Teachers Competitive Examination
5. Withheld Salary Suit

6. Community Chest Contest
7. Statistical Summaries for Mrs. Fitz-Gerald
8. Evaluation of locks for lockers
9. Survey of typing speed
10. Text adoption for grades 1-2-3 (State Adoption)

VII QUESTIONNAIRES

I. TESTS, MEASUREMENTS, AND CLASSIFICATION OF PUPILS

A. City Wide Program - cooperating with Deputy Supt. Bertha E. Roberts, Deputy Supt. Wm. H. DeBell, Deputy Supt. John McGlade and Director Julia Hahn.

The following table shows the extent of the testing that constituted the program for the city as a whole:

1928 - 1929

Kind of Test	Name of Test	Grades Involved	Approximate Number of Children Tested
Intelligence	Pintner-Cunningham	All pupils entering 1-A	7,000
Intelligence	Haggerty Delta I	2A,2B,3A,3B	12,700
Intelligence	National Intelligence Test	6B	4,260
Intelligence	Terman Mental Test	8B pupils going from elementary to high school.	3,000
		9B pupils going from junior high school to high school	2,550
Reading	Gates	2A,2B,3A,3B	12,703
Reading	Stanford	4A,4B,5A,5B	11,816

*These tests serve as a basis for classification of pupils into homogeneous groups for instruction purposes and as a basis for pupil guidance

Gates Reading Tests, types 1, 2, and 3, were given in grades 2A and 2B. The Haggerty Intelligence tests served as a basis for the type to be given in grades 3A and 3B. Types A,C, and D were administered where ability warranted.

B. Special Test Projects

1. Junior Primary

As a means of evaluating the work of the junior-primary classes and in particular to determining the effect of junior-primary work upon reading, the Detroit word recognition and the Gates word recognition tests were given to 24 selected 1-A classes, 12 of which were composed of students with junior-primary experience, and 12 of which were made up of students without junior primary experience.

2. Francisco Junior High Achievement Survey-Cooperating with Mr. Thaddeus Rhodes, Principal

The Stanford reading, arithmetic, and dictation tests were given to all the pupils of the Francisco Junior High School with the exception of those in the 9-B class. A double purpose was achieved. In the first place, information concerning the pupils' achievement in reading, arithmetic, and spelling was available, and acceleration and retardation in these subjects could be measured, and in the second place, a basis for classification of pupils into homogeneous groups for instruction was provided.

3. Balboa High School Survey - Cooperating with Mr. Robert Chase, Principal

The Department of Educational Research and Service has assisted in the testing program in the Balboa High School as a basis for classifying students for instructional purposes. An attempt was made to provide a more reliable and trustworthy basis for grouping than general intelligence. It is recognized that specific abilities in

the various subjects form sounder bases for classification in each subject than general ability to do school work. The Balboa High School testing program was based on this underlying principle

C. Age-Grade Study

It has been said that the best single measure of the efficacy of a school system is an age-grade distribution. The Department of Educational Research and Service has made a very detailed study of the age-grade distribution in San Francisco which will appear as a special bulletin of the department.

II. CURRICULUM REVISION - Cooperating with Chief Deputy Superintendent A. J. Cloud, in charge and Professor William Martin Proctor, Stanford University.

The following courses were revised and prepared for distribution to the schools:

1. Elementary Art
2. Elementary Science

The following courses were revised for a preliminary adjustment to the needs of the pupils in the Junior High Schools:

1. Mathematics
2. General Science
3. English
4. Social Studies
5. Languages

All courses at the Part Time School were revised for a preliminary try out during the coming year.

The preliminary work on the revision of the Elementary Language course was completed

Three reports were completed by committees in the fields of The Retarded Child, The Gifted Child, and the Student Activities in the Junior High and Elementary Schools were submitted to Mr. Cloud.

III. SCHOOL BUILDING PROBLEMS:

A. Studies in School Population

1. Pin Map

The location of school buildings is dependent on where the pupils live. It is often desirable to have information concerning the distribution of the school population throughout the city and in order to make this information readily available a set of maps has been constructed on which is shown the number of school children residing in each block. These facts are shown by means of pins placed in the map. These pins show the number and residence of students attending each school in the city and whether the students are in grades 1-6, 7-9 or 10-12.

2. Forecast of School Population

A reliable estimate of the number of students who will attend schools a decade or more hence is of basic importance in the determination of a building program. It is usually quite safe to base a prediction of future population on the trend of growth during the past years. A forecast of school population up to and including 1940 has been made based on average daily attendance and state enrollment in SanFrancisco Public Schools from 1910 to 1928.

3 Distribution of Junior High School Population

A detailed study showing the Junior High School population in each Elementary district was made. The number of Junior High School students in each present Junior High School district was segregated according to Elementary districts. Just which Elementary schools could be expected to contribute to each Junior High School was shown by means of a spot map of the schools. A possible division of the city of San Francisco

into Junior High School districts formed in such a way that every child would live within reasonable distance of a Junior High School was shown. Such a study aids in the determination of Junior High School locations.

4. Distribution of High School Population

Using the pin map as a source of information a distribution of the High School population was made. The city was divided into 84 sections for purposes of this study. This investigation served as a basis for drawing conclusions relative to the placement of senior high schools.

5. Distribution of Fairmount Elementary Population

In the event that the Fairmount building is to be used for a Junior High School it will become necessary to accommodate the Elementary pupils now attending Fairmount in other schools. A detailed investigation showed that all of the present Fairmount students in grades K - 6 could be properly accommodated in the surrounding schools if certain changes of boundaries between districts are made.

6. Boundary between Mission and Balboa High School Districts.

It was concluded from a consideration of distance, transportation lines, school population and topography, that the best boundary between the Balboa and Mission High School districts would be the crest of the hills and ridges lying between the two districts.

7. Study of Junior High School Population - Everett, Fairmount Bernal, Horace Mann, and Noe Valley Districts

It is desired to abandon the Noe Valley building at an early date and also to provide Junior High School opportunities for students in this district and in the Fairmount and Bernal districts. Conclusions of an investigation of the problem were:

1. The school population of these districts is rather static; there has been no significant decrease or growth of population over the last five years.
2. Three Junior High Schools properly located would serve the entire territory adequately; more than this number would necessitate the retention or establishment of one or more small Junior High Schools of 500 or less enrollment. This is highly undesirable, and furthermore not necessary in order to have Junior High Schools accessible to every child.
3. Consideration of travel distances, adequacy of present buildings, and efficient utilization of school buildings lead to the recommendation that the present Fairmount plant should be used for a Junior High School. Additions to the present plant so as to provide adequate facilities should be made.
4. The addition of sufficient accommodations to the Horace Mann plant to make its capacity about 1600 was recommended.

8. Probable Enrollment of Polytechnic as a Junior High School

It has been suggested that the Polytechnic building be used for Junior High School purposes to make possible the abandonment of the Crocker building. An investigation was made relative to the number of students who would probably attend Polytechnic if it were used as a Junior High School. It was shown rather conclusively that not more than 1400 students of Junior High School grade would be in attendance. It was concluded that it would be inadvisable to utilize the Polytechnic building for Junior High School purposes in view of the low per cent of building utilization that would result.

B. Location of Buildings

1. Moving Crocker Junior High School to Dudley-Stone Building

In order to make possible the immediate abandonment of the Crocker building, it has been suggested that the Dudley-Stone school be used to house Crocker Junior High School. To determine whether or not this would be feasible, a study was made to find out whether the surrounding Elementary schools could accommodate all of the Dudley-Stone Elementary pupils. It was found that if suitable district boundaries were chosen it would be possible to transfer all of the Dudley-Stone Elementary pupils to other schools and use the plant to house the Crocker Junior High School.

2. Commodore Sloat vs Aptos as a site for a Junior High School

A study of the alterations and additions that would need to be made to the present Commodore Sloat plant and a comparison of the Aptos and Commodore Sloat sites led to the conclusion that it would be better to erect a Junior High School on the Aptos site and to retain the Commodore Sloat building for Elementary School purposes.

C. Analysis and Evaluation of Building Plans.

The plans for seven school buildings were carefully analysed and critically evaluated by the staff of the Department of Educational Research and Service. These plans were as follows:

1. Marina Elementary School
2. Park Presidio Junior High School
3. Roosevelt Junior High
4. Francisco Junior High Annex
5. Geary Elementary School
6. Balboa High School
7. Aptos Junior High School

In general our recommendations were concerned with the following matters:

1. Arrangement of music rooms
2. Width of corridors
3. Size of classrooms and laboratories
4. Classroom lighting
5. Orientation and position of site
6. Distribution of toilet facilities
7. Locker arrangement

A detailed report is made of each set of plans checked and submitted to Deputy Superintendent David P. Hardy.

D. Miscellaneous Problems in School Housing

1. Size of High School recitation rooms

A study of the size of High School classes has shown that the median size of class is approximately 32. If the size of recitation rooms is 24 ft. x 30 ft., between 40 and 48 students may be accommodated each period based on the standard of 15 to 18 square feet per pupil. It can readily be seen that poor building utilization will result under such conditions. The number and size of classrooms should be planned so that high utilization of the building is possible. The number and size of classrooms will be dependent on the enrollment of the school and their size on the distribution of size of classes.

Based on the present distribution of size of classes, recitation rooms in a High School containing 50 such rooms should be of the following size:

Number of rooms	Pupil Capacity	Area 15 sq. ft. per pupil	Area 18 sq. ft. per pupil
4	20	300	360
30	36	540	648
16	48	720	864

Much saving could be affected by planning the size of classrooms in such a way as to effect a high utilization of the school plant.

2. Addition to the Horace Mann Junior High School

A very detailed study of the needs of the Horace Mann school was made which included the following parts:

a. Most desirable location of addition

b. Utilization of the present Horace Mann and Agassiz buildings.

1) Per cent of school time each room is used
2) Per cent of pupil stations used
3) Per cent of standard sittings utilized

c. Space requirements for a junior high school based on

1) Present course of study.
2) Present trend in size of classes

d. Necessary additions to the Horace Mann plant

3. Auditorium survey

The Department of Educational Research and Service cooperated with Mr. Russell Sanford who is making a study of auditorium use in schools of the bay district.

4. School Housing Situation in Patrick Henry, Daniel Webster, and Irving M. Scott districts.

An investigation showed that the school population of these districts is rather constant. The use of a portion of the Daniel Webster building for junior high school purposes has made necessary the use of temporary quarters for some of the elementary children. A solution of adequately housing all the pupils of the three above districts was suggested.

5. Administration Building

A tentative statement of the space requirements for an administration building for the San Francisco Public Schools was made.

E. Building Survey - Preliminary Statement

An attempt was made to clearly define the issues which arepresented and to point out and define the several problems. Conclusions of the preliminary report were:

1. The transition from the 8-4 plan to the 6-3-3 plan of organization is approximately one-half completed.

2. The present high school buildings will amply provide for the senior high school population(grades 10-12 for several years.

3. The major problem in completing the 6-3-3 plan of organization is the provision of adequate facilities for students of Junior High School grade.

4. If it is found desirable to add additional senior high school buildings to the present plant, some present high school buildings will have to be used for other than Senior High School purposes if all buildings are to be utilized to a high degree.

5. The present plant plus units to the present school plant would amply provide for all students of Junior and Senior High School grade that may be expected to be in attendance at the time these projected units are completed insofar as numbers alone are concerned.

6. A major problem is so planning the housing program that the present High School buildings are utilized and so that the buildings which are to be used for Senior High schools are suitably situated with respect to the student population.

IV ADMINISTRATIVE RESEARCH

1. Professional Training, Certification, and Experience of San Francisco Principals.

A study was made of the training, certification, and experience of the San Francisco principals. Comparisons were made with the standards for selection of principals in 20 large cities of the United States.

2. Standards for the Selection of Principal in Representative Large Cities

Information relative to standards for the selection of principals in large cities was obtained by means of a questionnaire. Twenty of the twenty-one cities solicitated furnished the information requested.

3. Suggested Standards for Administrative Officers in the San Francisco Public Schools.

After a consideration of the present experience and training of San Francisco principals combined with a study of the standards in force elsewhere a set of standards for eligibility to San Francisco administrative positions was drawn up.

4. Technique for selection of Text Books

A procedure for selection of text books including a plan for the selection of a committee to evaluate books in the field, and the use of a score card for comparing the books and the formulation of a statistical method for treating the score card results was devised by the Department of Educational Research and Service.

5. Trend of Teacher Load in Part Time High School

A study of the attendance, enrollment, size of classes and number of teachers shows that while enrollment and attendance

have increased the number of teachers has decreased during a period of three years. This indicates a high teacher load and points to greater efficiency of management.

6. Teacher Load in the High School

A very detailed study of the enrollments in the several High School subjects and of the size of classes in the several subjects was made. The data were analyzed and comparisons made between the teacher loads in the different departments and in the different high schools.

7. Size of Evening School Classes

A study of the size of classes in the various subjects taught in the San Francisco evening schools was made. Comparisons were made between size of classes in the different subjects and different schools.

8. Educational and Financial Statistics of Selected California School Districts

A comparison of the eleven largest city elementary and city high school districts on a number of educational and financial measures was made making use of data compiled by Mr. Walter Morgan, Chief of Division of Research and Statistics, California State Department of Education.

9. Tenth Year at Daniel Webster Junior High

Following the plan of providing 10th year terminal courses in the Junior High School for those students who will not go to High School for more than one year or perhaps not at all, a study was made of the situation at Daniel Webster Junior High School and Francisco Junior High School to determine whether 10th year terminal courses should be offered there. All the evidence studied led to the conclusion that it would be highly desirable to inaugurate 10th year terminal courses at Daniel Webster Junior High School and Francisco Junior High School.

10. Teacher Absence

An important problem in teacher personnel is the effect of the system of allowing sick leave on teacher absence. A critical evaluation of a master's thesis on this subject written at the University of California was made by the Department of Educational Research and Service.

11. Organization of San Francisco Public Schools

For the purpose of representing facts about the school system to the general public charts and graphs are most useful. The Department of Educational Research and Service has prepared charts showing the organization of administration of the San Francisco Public Schools.

12. Commodore Stockton Survey (Chinese children)

A social and mental survey of this school was undertaken and will be published as a separate report.

13. Gough Survey (Deaf children)

A preliminary survey was undertaken here with the view of the revision of the course of study.

14. Lilienthal Survey (Detention)

A mental survey has been completed here to determine the needs of the pupils and to suggest a possible revision of the course of study.

15. Duties of Supervisors and Directors

A summary report of the duties of Directors and Supervisors was prepared: An attempt was made to distinguish these duties one from another.

16. Size of Classes of High Schools and Part Time School

Several studies were made relative to the size of classes by subjects in the various High Schools. A study of class size and coordination was made at the Part Time School.

V ATTENDANCE STATISTICS

The Department of Educational Research and Service has charge of the gathering and compiling of attendance statistics. The attendance reports made monthly by each teacher are summarized and the information concerning school attendance is made available in useful form. The statistics are tabulated in such a way that information is available concerning the enrollment in each grade in each school in the city. These data are particularly useful in making population studies in connection with problems of school housing.

A yearly summary of the attendance statistics forms an important part of the Superintendent's Annual Report.

Since average daily attendance determines to a large extent the amount of state money to be apportioned to San Francisco, the function of keeping the attendance statistics assumes increased proportions.

During the past year the influenza epidemic was responsible for a large decrease in average daily attendance during the fall. Since the state school code makes provision for counting "emergency attendance" in such cases if the gain in average daily attendance for the year is less than the average gain for the three preceding years, this department made a study to determine whether or not the average daily attendance for the year would be sufficiently large to offset this decrease due to the epidemic. The figures studied seemed to indicate that the attendance in the late part of the year would be insufficient to make the gain for the year equivalent to the average of that for the previous three years. Accordingly permission was asked of the State Department of Education to compute "emergency attendance." Permission was granted. As a result San Francisco will receive a substantially larger apportionment from the State than it would have by counting only the actual attendance.

VI MISCELLANEOUS

1. Withheld Salary Suit

The claims of 517 teachers in the first salary suit were computed for each individual teacher.

2. Community Chest Contest

This Department cooperated with the Song Contest Committee of the Community Chest during the last drive.

3. Teachers' Competitive Examination

This Department cooperated with the Department of Personnel in the computations of the results obtained by the candidates in the teachers' examination.

4. Locks

An attempt was made to evaluate the desirability of various types of locks for lockers.

5. Survey of Standards of Typing Speed

At the request of one of the principals a survey of typing speed was made for High Schools.

6. Evaluation of Readers for State Adaption

This office cooperated with Miss Julia Hahn Director of Kindergarten-Primary Department, a member of the State Curriculum Commission,by scoring the various sets of readers according to a recognized technique.

QUESTIONNAIRES ANSWERED BY
DEPT. OF EDUCATIONAL RESEARCH AND SERVICE

SUBJECT	RECEIVED FROM	DATE
Adult Education and World-mindedness	American Council Institute of Pacific Relations New York City	May 8, 1928
Child Accounting	Swan School Medford, Mass.	Sept. 21, 1928
No. of teachers employed in Kgn.,Primary,and elementary grades No. of pupils	The School Committee of the City of Boston Boston, Mass.	Sept. 10, 1928
Paying teachers in twelve installments instead of ten or nine	Walter Herron Taylor School Norfolk, Virginia	Nov.2, 1928
Home Economics in the Junior High Schools	Miss Fronia J. Fox Lexington, Kentucky	Nov. 15, 1928
Information concerning Industrial Arts	U.S.Dept.of the Interior Bureau of Education Washington, D.C.	Nov. 16, 1928
Guidance	Morse School Pittsburgh, Pennsylvania	Nov. 1928
Report Cards(various marks used)	Eastern High School Washington D. C.	Nov. 23, 1928
	Dept.of Elem.School Principals of the National Educ. Association Washington, D.C.	Dec. 31, 1928
Duties and Qualifications of Asst.Principals--Junior,Senior and Elementary Schools	Principals' & Supervisors' Assn. G. A. Lange School Dayton, Ohio	Dec. 31, 1928
Journalism - High Schools	Waco High School Waco, Texas	Dec. 31, 1928
Information concerning Psychology Dept.	Director of the Psychology Dept. Board of Education Toledo, Ohio	Jan. 2, 1929

QUESTIONNAIRES ANSWERED (Contd.)

SUBJECT	RECEIVED FROM	DATE
Teachers' Salary Schedule (no.of students in high school, population of city, etc.)	Klamath County High School Klamath Falls, Oregon	Jan. 15, 1929
Uniform Tests	Dorchester High School for Girls Codman Square Dorchester, Mass.	Jan. 22, 1929
Teachers' Salaries - Grades 1-5	Dist. Supt. of Schools South San Francisco, Calif.	Jan. 30, 1929
Possibilities of School Cooperation with Social Science Department	San Diego Senior High School San Diego, California	Jan. 22, 1929
Text Book for Physiology	Franklin High School Los Angeles, Calif.	Jan. 29, 1929
Length of School Year Information requested to assist in High School Debate	Webster Junior High School Soc. Sci. Dept Oklahoma City, Okla	Jan. 18, 1929
Course in Moral Education for Elementary grades	Lucretia Mott Public School Philadelphia, Penn.	Feb. 8, 1929
Teaching of Special Subjects	Widdicomb School Grand Rapids, Michigan	Feb. 12, 1929
Lesson Planning	Teachers College of Kansas City Kansas City, Missouri	Feb. 26, 1929
Selection of Supplementary Material	National Education Association Washington, D. C.	Mar. 1, 1929
Adult Mexican Education in the U. S.	Miss Grace E. Reeves Claremont, California	Mar. 9, 1929
School Needs	Santa Cruz City Schools Santa Cruz, California	Mar. 16, 1929
Information concerning American History	University of Pennsylvania Philadelphia, Penn.	Mar. 19, 1929
Salary Schedule	Supt. City Schools San Bernardino City Schools San Bernardino, Calif.	Feb. 15, 1929

QUESTIONNAIRES ANSWERED (Contd)

SUBJECT	RECEIVED FROM	DATE
Salary Schedule	High School Teachers' Assn. Fort Worth, Texas	Mar. 29, 1929
Scholastic and Attendance Forms	Supt of City Schools Knoxville, Tennessee	Mar. 26, 1929
Geography Courses-Senior High School	Senior High School Quincy, Illinois	Mar. 15, 1929
Methods of Marking and Evaluating the work of pupils grouped according to ability	Philadelphia High School for Girls Philadelphia, Penn.	Apr. 12, 1929
The Teacher and Ability Grouping	Frances E.Willard School Boston, Mass.	Apr. 22, 1929
Information concerning Psychological Clinic	Miss Helen M. Bradley Dayton, Ohio	Apr. 22, 1929
Curriculum Study - Social Studies	Miss Ruth E. Resh Ann Arbor, Michigan	Apr. 27, 1929
Paying teachers on a twelve-month basis	Andrews School No. 9 Rochester, N.Y.	Apr. 9, 1929
The History and Present Status of Tests in the Field of Shorthand	Harold E. Stewart (Teacher Part Time High School) Long Beach, California	Apr. 16, 1929
Retardation Problem in Schools	Vose School Milton, Mass.	May 6, 1929
Report of Research Studies	National Education Assn Washington, D. C.	
Criticism of card prepared by Sunset School Carmel-By-the-Sea	Sunset School Carmel-By-the-Sea,Calif.	Apr. 25, 1929
Cost per Pupil in Average Daily Attendance	Dist. Supt. of Schools Walnut Creek, Calif.	May 6, 1929
No. of teachers in Junior High and Senior High Schools - also no. of Special Teachers	Columbia University New York	May 10, 1929

QUESTIONNAIRES ANSWERED (Contd)

SUBJECT	RECEIVED FROM	DATE
Enrollment in the San Francisco Public Schools for the year 1927-1928	Research Department New York Evening Post New York N.Y.	June 8, 1929
Cards for mental and educational tests - also attendance and discipline cards	District Supt.of Schools Oildale, Calif.	June 24,1929
Extra-Curricular Activities	University of Minnesota College of Education Minneapolis, Minnesota	July 2, 1929

SAN FRANCISCO PUBLIC SCHOOLS
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Ivan R. Waterman

INTRODUCTION

The primary purpose of the public school system of San Francisco is to provide both an elementary and secondary school education for every child in the city. In compliance with the state law, each child must attend the regular day school until he reaches the age of 16 years, except in special cases. At that age the child may attend the part time school for four hours per week until he is 18 years of age or attend the regular day school until he is 18 years of age or finishes the regular four year secondary school course.

It is assumed that ordinarily children enter the first grade at age 6 or 7 and progress one half-grade each term, finishing the six year elementary school at age 12 or 13. In theory at least, the course of study is so designed and organized that the average child makes normal progress. However we have pupils who make more than normal progress, pupils who make normal progress, and pupils who make less than normal progress. The result is underage, normal and overage children at the same grade level. If failure to progress is frequent, the pupil finds himself at 15 or 16 years of age still in the elementary grades and ready to drop out of school at the first opportunity.

One method of measuring pupil progress is by means of a study of age-grade status. Such a study, which was made possible through the cooperation of principals and teachers who compiled and verified the data from each school, is herewith presented. Compilation of these data with accompanying explanation has been organized by the Department of Educational Research and Service. The study should prove to be of great value to principals and teachers, in showing the situation in each school and each school's relative position among all the schools of the entire system.

Thinking of San Francisco as it spreads from the Pacific Ocean to the Bay, from the Golden Gate to the County Line, we have encompassed practically every type of child that could be found if we should enlarge our boundaries to include the entire United States.

I DISTRIBUTION OF PUPILS ACCORDING TO AGE AND GRADE

The following table shows the distribution of pupils in the grades of the San Francisco Public Schools as of March 1, 1929.

This table includes all children of the public schools, except those in ungraded classes, pupils of the Detention Home, Ethan Allen School, Gough School and the Ungraded Primary School. The totals across the bottom of the page show the number of pupils in each half-grade, and the totals at the extreme right of the table show the number of pupils of a given age in all grades. The numbers appearing between the zig-zag lines across the page, indicate the pupils who are in the proper grades according to their chronological ages. The numbers above the lines indicate the pupils who are accelerated according to chronological age, while those below the lines are retarded according to chronological age. The accompanying graph (Chart I) shows the distribution of pupils by grades. It should be read as follows: There were 7022 children in the first grade on March 1, 1929. The graph indicates that the holding power of our schools is about as great as could be reasonably expected. The slight increase in grade nine is probably due to the entrance into the public schools of children who have been attending private and parochial schools. In the sixth grade the number of pupils was 82.48 per cent of the number in the first grade, and in the eighth grade the number was 81.81 per cent of the number in the first grade. In the ninth grade the per cent had increased to 84.25. For the tenth grade the percentage was 67.53.

Chart II on the same page is a graphical representation showing the distribution of pupils by ages. This also shows a fairly uniform number attending the public schools until the end of the fifteenth year. A comparison with similar figures for 1927 (shown in Annual Report of the Public Schools 1928, page 74) shows a considerable increase for ages 15, 16 and 17 over the number recorded for that year. The total increase for these three years was 1728 pupils, as against a small decrease for the ages 12, 13 and 14. This shows that comparatively more of the children of the ages 15, 16 and 17 are remaining in the public schools.

DEPARTMENT OF EDUCATIONAL RESEARCH AND SURVEYS
SAN FRANCISCO PUBLIC SCHOOLS

AGE GRADE DISTRIBUTION FULL TIME DAY SCHOOLS, MARCH 1,1929

GRADES 1 - 12

	L-1	H-1	L-2	H-2	L-3	H-3	L-4	H-4	L-5	H-5	L-6	H-6	L-7	H-7	L-8	H-8	L-9	H-9	L-10	H-10	L-11	H-11	L-12	H-12	Tot
Under 6	124	6																							
6	1869	248	11	3																					1
6½	895	1705	138	26		1																			19
7	399	1049	1071	821	55	7																			27
7½	104	432	799	1457	277	66	20	2	1																29
8	41	161	475	980	943	385	101	19	4	1															31
8½	13	55	166	494	717	1149	324	92	11	9															31
9	9	37	88	269	188	869	858	420	89	15															30
9½	5	7	24	66	183	442	568	927	261	68	21	2													30
10	2	1	21	46	126	228	405	702	677	372	90	34	10	2	1										20
10½	1	3	5	17	60	139	221	445	574	925	305	121	21	5											27
11		2	3	9	25	59	140	278	410	365	628	544	118	41	5	3									28
11½			2		13	29	76	163	233	411	525	811	295	124	24	4	4								27
12	2	2	1	1	11	14	40	94	161	259	379	606	502	330	123	43	18	1							27
12½	2			2	2	8	22	33	73	186	255	418	470	721	293	137	32	7		1					26
13				2	4	10	16	26	50	95	208	275	382	679	550	327	122	38	11	1					26
13½						5	7	9	26	77	119	192	258	440	493	688	526	110	28	8					27
14			1		2	3	6	11	18	31	70	108	185	308	389	597	541	349	134	54	3				27
14½			1		1	2	5	10	14	15	40	73	103	209	301	468	581	716	312	140	25	6			30
15					3	1		3	13	12	36	33	86	147	200	345	410	657	554	293	92	32	8	1	29
15½					2	2		3	7	8	12	15	37	99	113	217	329	468	497	534	254	97	21	11	27
16						1		3	3	5	10	15	22	45	99	145	228	325	458	463	333	224	73	59	25
16½							2		1		6	12	6	16	30	58	121	214	272	306	341	294	137	163	19
17							2	1	1	1	2	5	5	9	22	38	70	91	135	214	249	299	229	229	16
17½											3	4	3	3	9	9	31	45	77	107	158	165	197	333	11
18											3	3	1	2	3	5	19	30	35	52	101	119	146	233	75
18½								1				3		1	4	2	8	7	12	16	41	48	72	151	36
19													1	1	2	2	1	5	15	11	18	31	38	79	20
19½													1	1		2			2	4	15	12	8	27	7
20														1		2	1	2		5	6	9	7	22	5
20½																			2	1	1	6	7	8	2
over 21																	3	4	3	7	6	8	6	27	64
TOTAL	3296	3726	2808	3712	2854	3418	2811	3242	2627	3175	2718	3074	2566	3184	2661	3084	2845	3071	2525	2217	1643	1370	949	1343	6491

CHART I

DISTRIBUTION OF PUPILS BY GRADES
Spring Term 1929

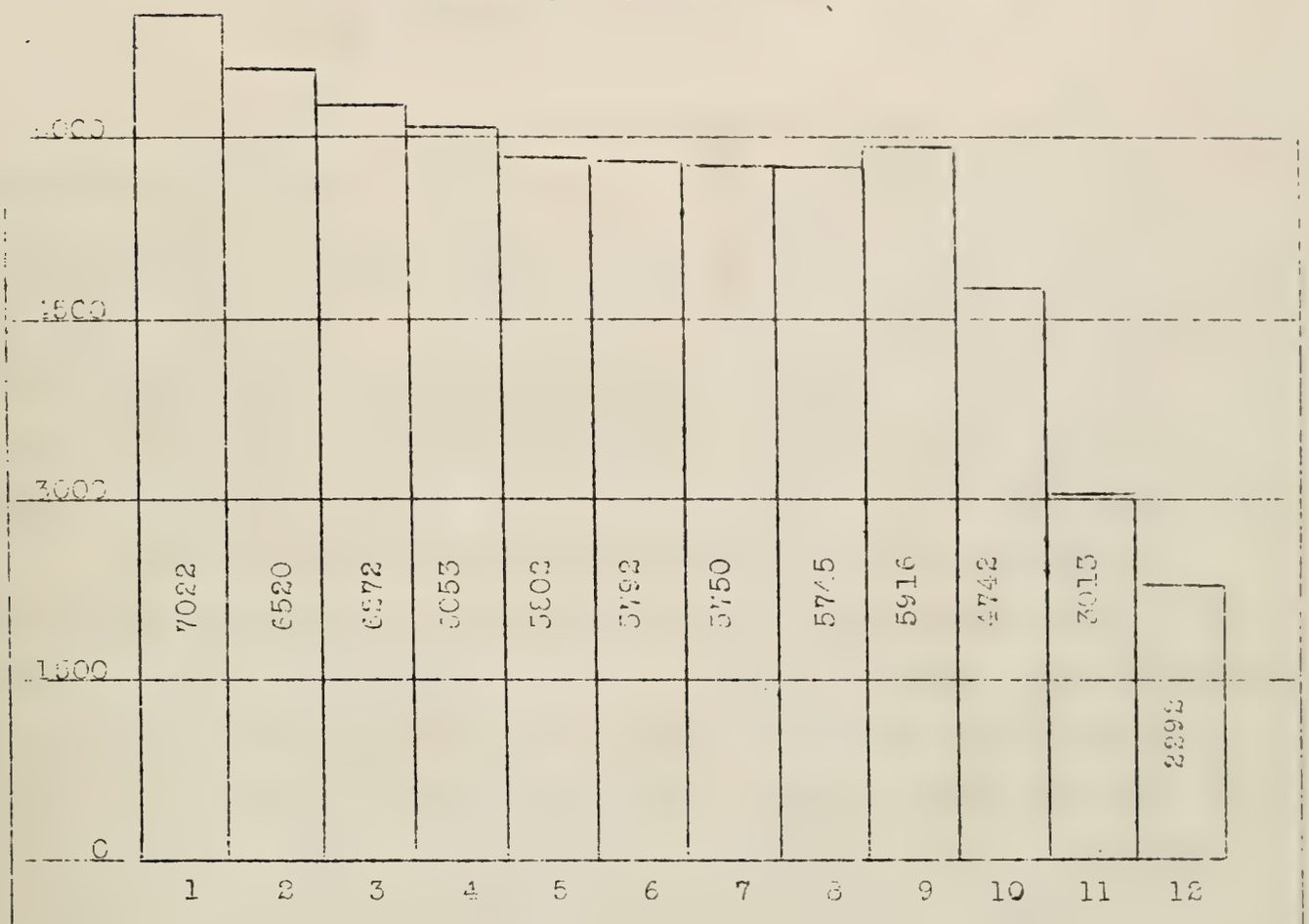
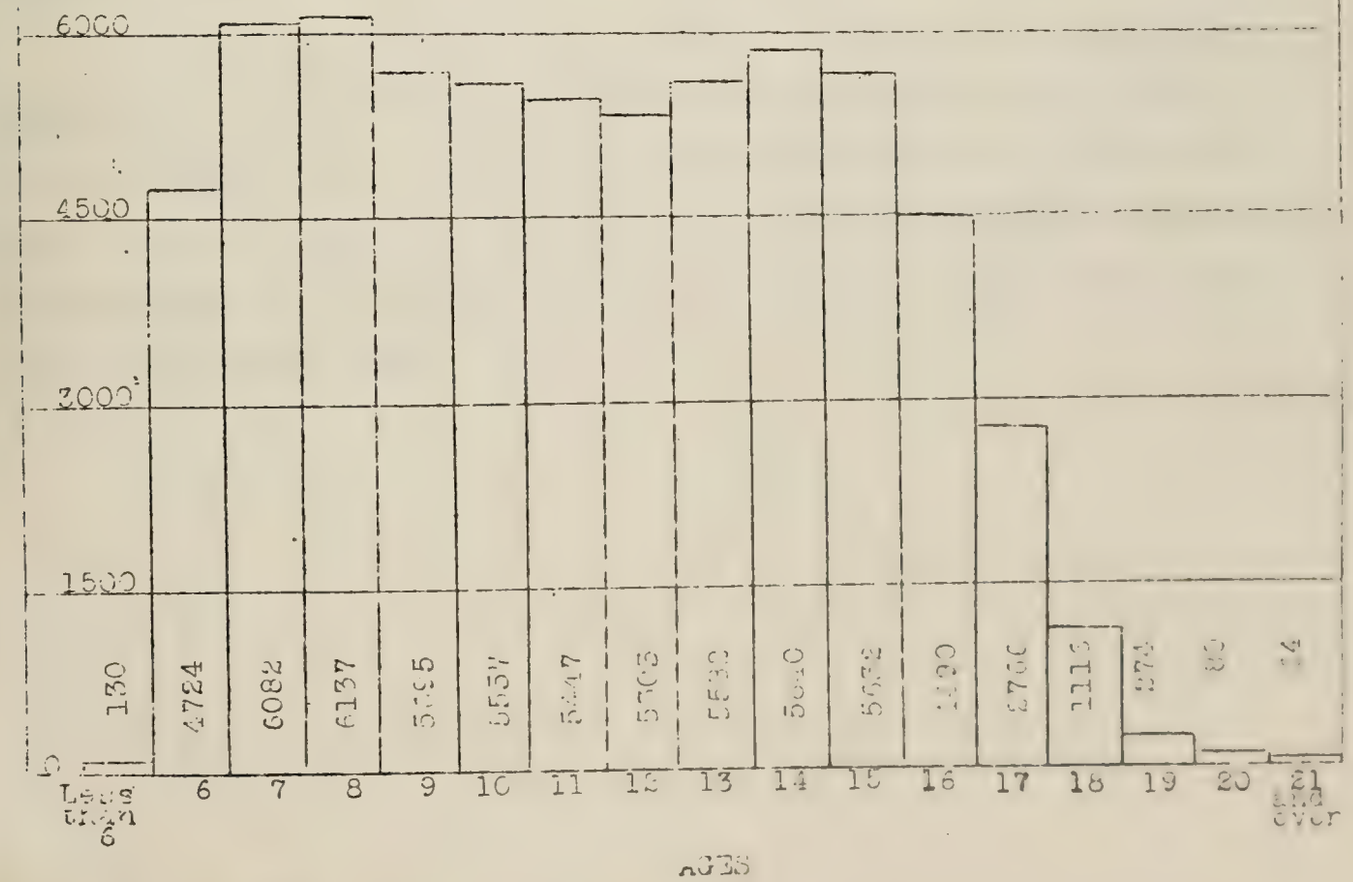


CHART II

DISTRIBUTION OF PUPILS BY AGES
Spring Term 1929



II GENERAL TREND OF CHILDREN OF ALL GRADES, COMPARED TO AGE-GRADE STANDARDS

The following table and graph show the general trend of distribution of pupils of all ages and all grades. The median is probably the best measure of the central tendency of a distribution. Age-grade standards have been set up in order to increase the educational experience of as many children as possible. The age-grade standards which have been quite generally accepted throughout the United States appear in the last column at the right of the table.

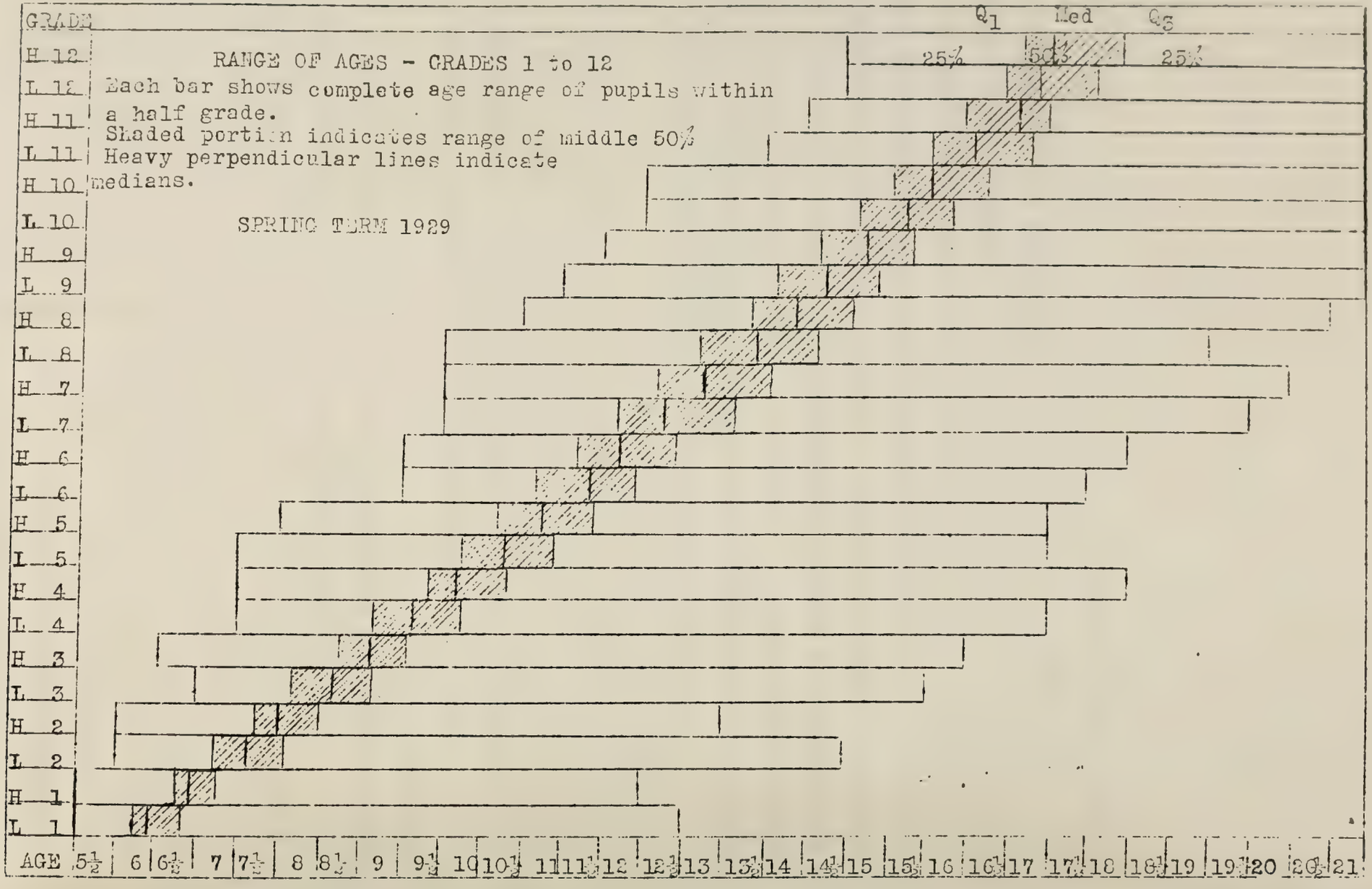
The first line of the table should be read as follows: One-half of the L-1 pupils are less than 6 years 2 months, (the median age) and one-half are more than 6 years 2 months. Again one-half of those younger than 6 years 2 months are less than 5 years 11 months, and one-half of those older than 6 years 2 months are more than 6 years 7 months. Thus one-half (the middle 50 per cent of the L-1 pupils) are included between the ages 5 years 11 months and 6 years 7 months. The range of age for the middle 50 per cent then is 8 months. The grade standard for this half-grade is from 6 years 0 months to 7 years 0 months. Data for the other half-grades are similarly read.

The graph presents the same data. Each bar represents the age-range for each half-grade. The dark portion of each bar shows the age-range for the middle 50 per cent of the pupils of each half-grade, while the uncolored portions at each end of the bar represent the age-range of the youngest and oldest twenty-five per cent of the pupils of the half-grade.

RANGE OF AGES - GRADES 1 TO 12
Spring Term 1929

Grades	Lower Quartile	Median	Upper Quartile	Range Middle 50 per cent	Difference between grade medians	Grade Standards
	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Mos.	Years
L-1	5 - 11	6 - 2	6 - 7	- 8	---	6 to 7
H-1	6 - 5	6 - 8	7 - 1	- 8	6	6½ to 7½
L-2	7 - 0	7 - 4	7 - 10	- 10	8	7 to 8
H-2	7 - 5	7 - 9	8 - 3	- 10	5	7½ to 8½
L-3	7 - 11	8 - 4	8 - 11	1 - 0	7	8 to 9
H-3	8 - 5	8 - 10	9 - 4	- 11	6	8½ to 9½
L-4	8 - 11	9 - 4	10 - 0	1 - 1	6	9 to 10
H-4	9 - 5	9 - 10	10 - 7	1 - 2	6	9½ to 10½
L-5	10 - 0	10 - 6	11 - 2	1 - 2	8	10 to 11
H-5	10 - 5	10 - 11	11 - 8	1 - 3	5	10½ to 11½
L-6	10 - 11	11 - 7	12 - 5	1 - 6	8	11 to 12
H-6	11 - 5	11 - 11	12 - 8	1 - 3	4	11½ to 12½
L-7	11 - 11	12 - 6	13 - 5	1 - 6	7	12 to 13
H-7	12 - 5	13 - 0	13 - 10	1 - 5	6	12½ to 13½
L-8	12 - 11	13 - 7	14 - 5	1 - 6	7	13 to 14
H-8	13 - 6	14 - 1	14 - 10	1 - 4	6	13½ to 14½
L-9	13 - 11	14 - 7	15 - 5	1 - 6	6	14 to 15
H-9	14 - 5	15 - 0	15 - 8	1 - 3	5	14½ to 15½
L-10	14 - 11	15 - 6	16 - 2	1 - 3	6	15 to 16
H-10	15 - 4	15 - 10	16 - 6	1 - 2	4	15½ to 16½
L-11	15 - 10	16 - 5	17 - 1	1 - 3	7	16 to 17
H-11	16 - 3	16 - 10	17 - 5	1 - 2	5	16½ to 17½
L-12	16 - 9	17 - 3	17 - 11	1 - 2	5	17 to 18
H-12	17 - 0	17 - 5	18 - 2	1 - 2	2	17½ to 18½

Table I


RANGE OF AGES - GRADES 1 to 12
Each bar shows complete age range of pupils within a half grade.
Shaded portion indicates range of middle 50%
Heavy perpendicular lines indicate medians.
SPRING TERM 1929
GRADE
H 12
L 12
H 11
L 11
H 10
L 10
H 9
L 9
H 8
L 8
H 7
L 7
H 6
L 6
H 5
L 5
H 4
L 4
H 3
L 3
H 2
L 2
H 1
L 1
AGE
5½ 6 6½ 7 7½ 8 8½ 9 9½ 10 10½ 11 11½ 12 12½ 13 13½ 14 14½ 15 15½ 16 16½ 17 17½ 18 18½ 19 19½ 20 20½ 21

Tables II and III show the percentage of pupils of each half-grade who are accelerated, at grade and retarded.

Table II presents the data by half-grades and should be read as follows: Of all H-1 pupils, .16 per cent are accelerated more than one-half year; 6.66 per cent are accelerated one-half year, making a total acceleration for the half grade of 6.82 per cent. The pupils who are at grade amount to 74.40 per cent, while 18.78 per cent are retarded. Those retarded only one-half year amount to 11.60 per cent, while 7.18 per cent are retarded more than one-half year. From the total we learn that for every 100 pupils in the public schools 15 are accelerated, 51 are at grade and 34 are retarded.

Table III presents the same data segregated into items, boys and girls. It will be noted that in every half-grade and in the totals there is less acceleration among the boys than girls, a smaller per cent of boys at grade than girls, and a larger retardation among boys than girls.

The charts accompanying the table present graphically certain comparisons of the same data; by half grades, for boys and girls, and by totals. A close study of the charts reveals many important items: the grades in which greatest retardation exists; the comparative number of pupils in each classification - retarded, at grade and accelerated; the increased acceleration toward the twelfth year; the more favorable position of the girls; the greater per cent of retardation in the low half-grades; the maximum retardation between L-6 and L-9 grades, which amounts to nearly 40% of pupils within these grades, etcetera.

PERCENTAGE OF PUPILS ACCELERATED, AT GRADE, AND RETARDED FOR EACH HALF-GRADE

ACCELERATED				At Grade	RETARDED		
Grade	More than ½ year	½ year	Total		Total	½ year	More than ½ year
Low 1		3.76	3.76	78.80	17.44	12.10	5.34
High 1	.16	6.66	6.82	74.40	18.78	11.60	7.18
Low 2	.40	4.96	5.36	66.60	28.03	16.90	11.14
High 2	.78	8.65	9.43	65.40	25.17	13.60	11.57
Low 3	1.88	9.67	11.55	58.30	30.15	15.00	15.15
High 3	2.15	11.30	13.45	59.00	27.55	12.90	14.65
Low 4	4.26	11.50	15.76	50.65	33.59	14.65	18.94
High 4	3.47	13.00	16.47	50.25	33.19	13.75	19.44
Low 5	4.01	9.95	13.96	47.70	38.34	15.60	22.74
High 5	3.56	11.70	15.26	50.10	34.64	12.90	21.74
Low 6	4.08	11.10	15.18	42.50	42.32	13.91	28.41
High 6	4.14	11.36	15.50	46.30	38.20	13.80	24.40
Low 7	5.79	11.50	17.29	40.20	42.51	15.00	27.51
High 7	5.39	10.50	15.89	43.90	40.21	13.80	26.41
Low 8	5.74	11.10	16.84	39.10	44.06	14.60	29.46
High 8	5.86	10.50	16.36	41.90	41.74	15.10	26.64
Low 9	6.20	11.44	17.64	39.38	42.98	14.45	28.53
High 9	5.06	11.37	16.43	44.80	38.77	15.21	23.56
Low 10	6.86	12.27	19.13	40.80	40.07	18.15	21.92
High 10	9.21	13.30	22.51	44.90	32.59	13.76	18.83
Low 11	7.15	15.49	22.64	41.19	36.17	15.15	21.02
High 11	9.84	16.33	26.17	43.26	30.57	13.52	17.05
Low 12	10.76	14.45	25.21	44.84	29.95	15.40	14.55
High 12	17.42	17.01	34.43	42.16	23.41	11.22	12.19
Total	4.39	10.61	15.00	51.40	33.60	14.14	19.46

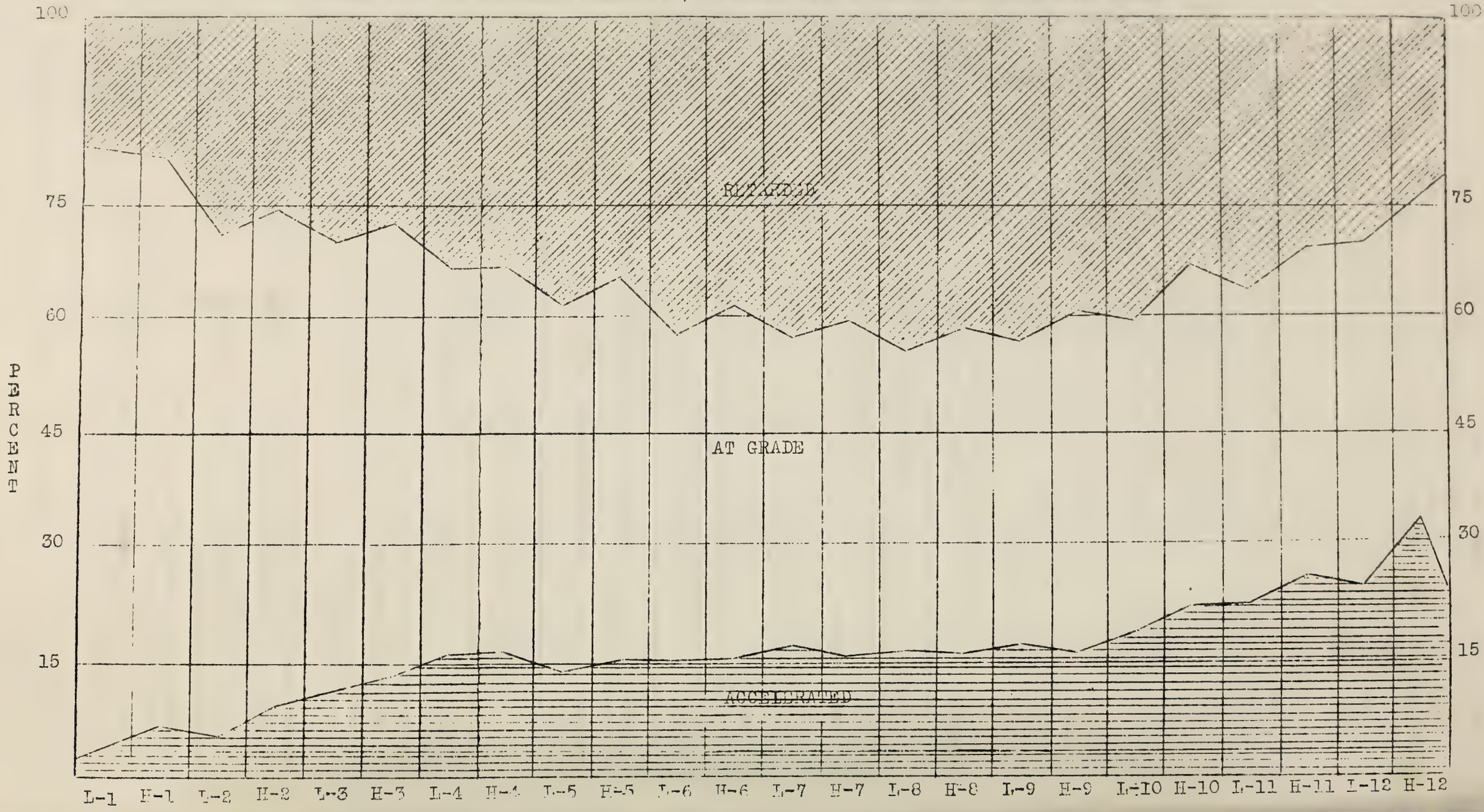
Table II

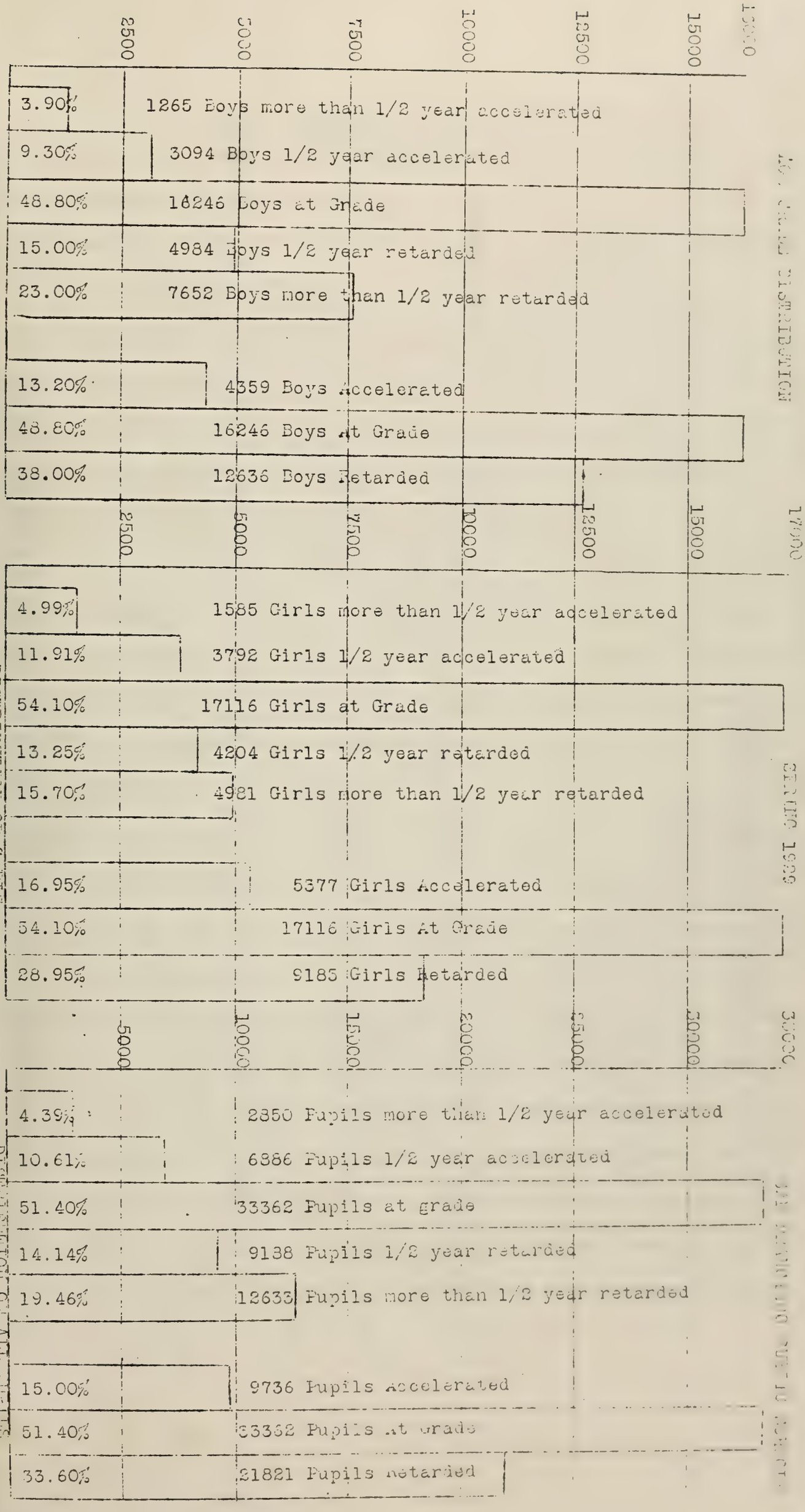
PERCENTAGE OF BOYS AND PERCENTAGE OF GIRLS ACCELERATED, AT GRADE AND RETARDED FOR EACH HALF GRADE

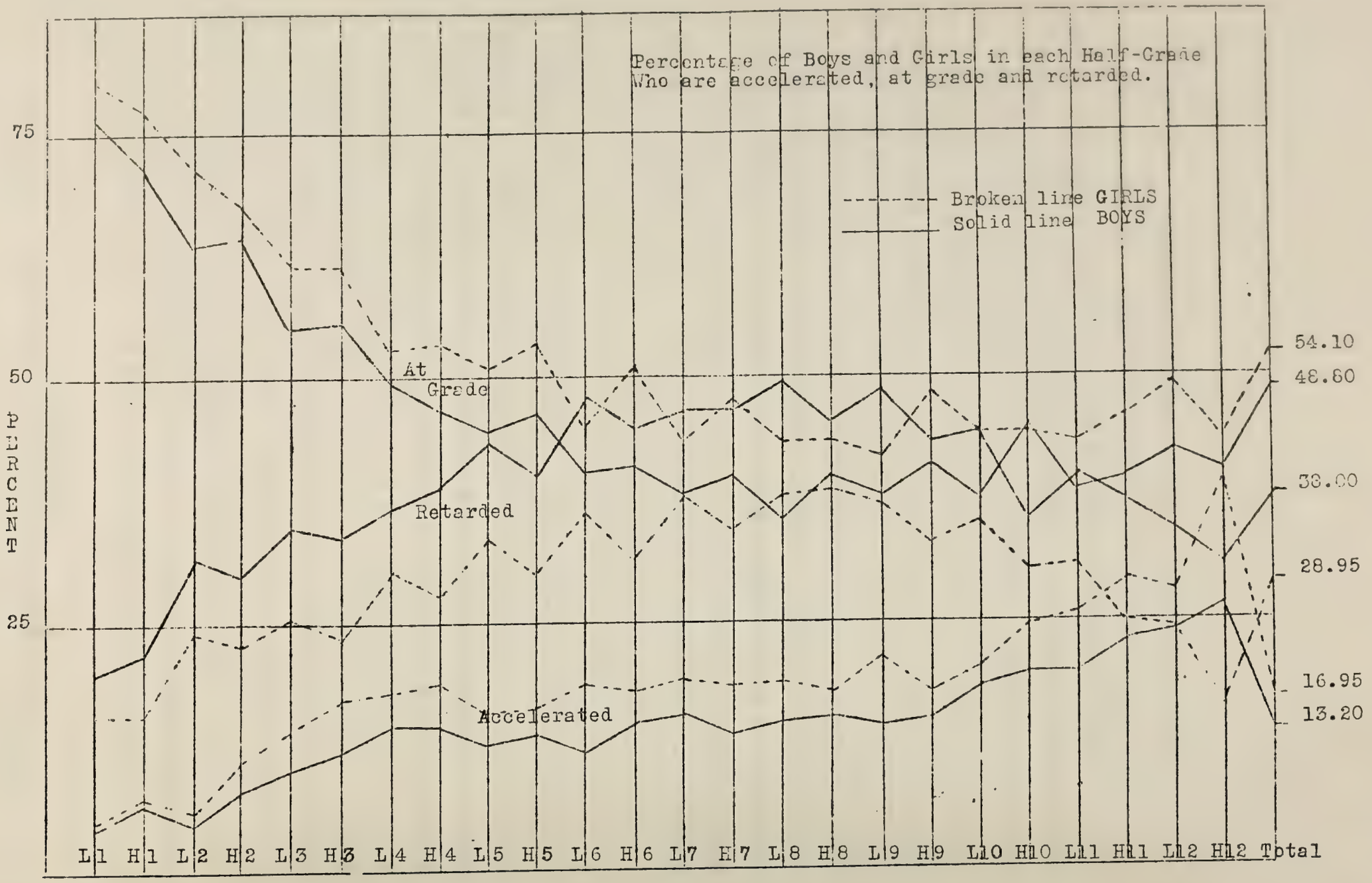
GRADE	SEX	ACCELERATED			AT GRADE	RETARDED		
		MORE THAN ½ YEAR	½ YEAR	TOTAL		TOTAL	½ YEAR	MORE THAN ½ YEAR
L-1	B		3.50	3.50	76.70	19.80	13.70	6.10
	G		4.10	4.10	80.40	15.50	10.80	4.70
H-1	B	.16	6.30	6.46	71.70	21.84	13.60	8.24
	G	.17	7.20	7.37	77.20	15.43	9.40	6.03
L-2	B	.46	4.35	4.81	63.60	31.59	18.30	13.29
	G	.31	5.57	5.88	70.40	23.72	15.20	8.52
H-2	B	.52	7.30	7.82	64.20	27.98	14.80	13.18
	G	1.04	10.10	11.14	67.30	21.56	11.60	10.96
L-3	B	1.67	8.50	10.17	55.00	34.83	16.00	18.83
	G	2.43	11.00	13.43	61.40	25.17	13.70	11.47
H-3	B	1.78	9.45	11.23	55.40	33.37	15.50	17.87
	G	2.58	13.10	15.68	61.40	22.92	11.30	11.62
L-4	B	3.65	10.80	14.45	49.20	36.35	14.70	21.65
	G	5.00	12.70	17.70	52.30	30.00	13.80	16.20
H-4	B	2.95	11.50	14.45	46.70	38.85	14.50	24.35
	G	4.16	14.40	18.56	53.90	27.54	12.90	14.14
L-5	B	3.98	8.35	12.33	44.50	43.17	17.00	26.17
	G	4.03	11.70	15.73	51.00	33.27	14.00	19.27
H-5	B	3.02	10.90	13.92	46.20	39.88	14.20	25.68
	G	4.06	12.50	16.56	53.60	29.84	11.80	18.04
L-6	B	3.42	8.50	11.92	40.20	47.88	14.51	33.37
	G	4.81	14.10	18.91	44.90	46.19	13.30	22.89
H-6	B	4.58	10.20	14.78	40.90	44.32	16.00	28.32
	G	5.70	12.20	17.90	51.00	31.10	11.40	19.70
L-7	B	4.95	10.60	15.55	37.90	46.55	15.70	30.85
	G	6.75	12.30	19.05	43.10	37.85	14.50	23.35
H-7	B	4.81	8.60	13.41	40.00	46.59	14.00	32.59
	G	6.07	12.20	18.27	47.60	34.13	13.60	20.53
L-8	B	4.98	10.50	15.22	35.30	49.48	14.02	35.28
	G	6.72	11.90	18.62	43.30	38.08	15.10	22.98
H-8	B	5.92	9.37	15.29	39.50	45.21	14.90	30.31
	G	5.81	11.80	17.61	46.90	38.49	15.40	23.90
L-9	B	5.05	9.57	14.62	37.30	48.08	14.90	33.18
	G	7.51	13.60	21.11	41.80	37.09	13.90	23.19
H-9	B	4.37	10.83	15.20	40.95	43.85	14.92	28.93
	G	5.81	11.90	17.71	48.60	33.69	15.50	18.19
L-10	B	6.99	11.63	18.62	37.08	44.30	18.25	26.05
	G	6.65	13.70	20.35	44.32	35.33	17.90	17.43
H-10	B	7.61	12.24	19.85	45.04	35.11	13.22	21.89
	G	10.65	14.10	24.75	44.91	30.34	14.30	16.04
L-11	B	6.95	12.51	19.46	38.55	41.99	14.78	27.21
	G	7.64	18.20	25.84	43.40	30.76	15.50	15.26
H-11	B	10.49	12.43	22.92	39.84	37.24	16.27	20.97
	G	9.31	20.00	29.31	46.05	24.64	11.10	13.54
L-12	B	9.97	13.61	23.58	42.15	34.27	15.12	19.15
	G	11.67	15.45	27.12	48.30	24.58	15.70	8.88
H-12	B	12.19	16.50	28.69	40.68	30.63	13.11	17.52
	G	22.10	17.57	39.67	43.51	16.82	9.53	7.29
Total	B	3.90	9.30	13.20	48.80	38.00	15.00	23.00
Total	G	4.99	11.96	16.95	54.10	28.95	13.25	15.70
Grand Total	B & G	4.39	10.61	15.00	51.40	33.60	14.14	19.46

Table III

PER CENT OF PUPILS ACCELERATED, AT GRADE AND RETARDED FOR EACH HALF GRADE




2500
5000
7500
10000
12500
15000
17500
3.90% 1265 Boys more than 1/2 year accelerated
9.30% 3094 Boys 1/2 year accelerated
48.80% 16246 Boys at Grade
15.00% 4984 Boys 1/2 year retarded
23.00% 7652 Boys more than 1/2 year retarded
13.20% 4359 Boys Accelerated
48.80% 16246 Boys At Grade
38.00% 12636 Boys Retarded
4.99% 1585 Girls more than 1/2 year accelerated
11.91% 3792 Girls 1/2 year accelerated
54.10% 17116 Girls at Grade
13.25% 4204 Girls 1/2 year retarded
15.70% 4981 Girls more than 1/2 year retarded
16.95% 5377 Girls Accelerated
54.10% 17116 Girls At Grade
28.95% 9185 Girls Retarded
5000
10000
15000
20000
25000
30000
4.39% 2850 Pupils more than 1/2 year accelerated
10.61% 6886 Pupils 1/2 year accelerated
51.40% 33362 Pupils at grade
14.14% 9138 Pupils 1/2 year retarded
19.46% 12633 Pupils more than 1/2 year retarded
15.00% 9736 Pupils Accelerated
51.40% 33362 Pupils At Grade
33.60% 21821 Pupils Retarded


Percentage of Boys and Girls in each Half-Grade
Who are accelerated, at grade and retarded.
Broken line GIRLS
Solid line BOYS
75
50
25
PERCENT
At Grade
Retarded
Accelerated
54.10
48.80
38.00
28.95
16.95
13.20
L1 H1 L2 H2 L3 H3 L4 H4 L5 H5 L6 H6 L7 H7 L8 H8 L9 H9 L10 H10 L11 H11 L12 H12 Total

III DISTRIBUTION OF PUPILS ACCORDING TO AGE AND GRADE BY SCHOOLS

Table IV shows both numbers and per cent of pupils in the elementary schools, grades 1-6, who are accelerated, at grade and retarded. The schools are listed alphabetically. The relative position of any school with respect to age and grade may be easily determined. The table should be read as follows: Twenty-seven pupils of Adams School are accelerated, 119 are at grade and 107 are retarded, or 10.7 per cent are accelerated, 47.0 per cent are at grade, and 42.3 per cent are retarded. The percentages for all pupils of grades 1-6 listed are as follows: accelerated 11.1 per cent, at grade 58.5 per cent and retarded 30.4 per cent. Thus, in every one hundred children in grades 1 to 6 approximately 11 are accelerated, 59 are at grade and 30 are retarded.

Table V presents a distribution of elementary schools (grades 1-6) according to percentage of pupils accelerated, at grade and retarded. A wide range is evident. Three schools have no acceleration and one has 35.9 per cent. The others are distributed between the two points, one-half above 9.94 per cent and one-half below that point. One school (a special school) has no children at grade, and the per cent of pupils at grade for the rest of the schools lies between 20.7 and 73.7. One-half of the schools have less than 57.76 per cent of pupils at grade and one-half have more than that per cent at grade. In one school (a special school) all children are retarded. The rest of the schools distribute themselves between 71.8 per cent and 10.4 per cent of pupils retarded. One-half of the schools have more than 30.66 per cent of pupils retarded and the other one-half have less than that per cent retarded.

Table IV

PERCENTAGE OF PUPILS OF ELEMENTARY SCHOOLS (GRADES 1-6) ACCELERATED, AT GRADE AND RETARDED

SCHOOL	NUMBER				PER CENT		
	Accel-erated	At Grade	Re-tarded	Total	Accel-erated	At Grade	Re-tarded
Adams	27	119	107	253	10.7	47.0	42.3
Alamo	144	547	135	826	17.4	66.2	16.4
Alvarado	71	506	180	757	9.4	66.9	23.7
Andrew Jackson	128	176	53	357	35.9	49.3	14.8
Argonne	161	396	83	640	25.2	61.8	13.0
Bay View	23	77	114	214	10.7	36.0	53.3
Bret Harte	34	149	86	269	12.6	55.5	31.9
Bryant	40	303	214	557	7.2	54.4	38.4
Buena Vista	1	12	32	45	2.2	26.6	71.2
Burnett	50	333	186	569	8.8	58.6	32.6
Cabrillo	43	326	75	444	9.7	73.5	16.8
Children'sHospital	1	5	12	18	5.5	27.8	66.7
Cleveland	47	299	241	587	8.0	51.0	41.0
Columbus	59	152	52	263	22.4	57.8	19.8
Commodore Sloat	85	362	64	511	16.7	70.8	12.5
Commodore Stockton	50	432	635	1117	4.4	38.8	56.8
Daniel Webster	39	199	131	369	10.6	54.0	35.4
Douglas	39	162	82	283	13.8	57.2	29.0
Dudley Stone	37	335	148	520	7.1	64.4	28.5
Edison	78	609	231	918	8.5	66.2	25.3
E. R. Taylor	43	459	221	723	5.9	63.4	30.7
Emerson	68	444	220	732	9.3	60.6	30.1
Excelsior	36	412	122	570	6.3	72.3	21.4
Fairmount	27	417	158	602	4.5	69.2	26.3
Farragut	82	357	131	570	14.4	62.7	22.9
Francis Scott Key	87	228	101	416	20.9	54.8	24.3
Franklin	21	132	147	300	7.0	44.0	49.0
Frank McCoppin	101	402	134	637	15.9	63.1	21.0
Fremont	37	250	145	432	8.6	58.0	33.4
Garfield	51	302	323	676	7.6	44.6	47.8
George Peabody	69	197	70	336	20.6	58.6	20.8
Glen Park	45	326	134	505	8.9	64.5	26.6
Golden Gate	27	241	187	455	5.9	53.0	41.1
Grant.	84	325	70	479	17.4	68.0	14.6
Grattan	62	352	83	477	13.0	69.6	17.4
Guadalupe	45	321	158	524	8.6	61.3	30.1
Hancock	44	226	173	443	9.9	51.1	39.0
Hawthorne	82	347	307	736	11.1	47.2	41.7
Hillcrest	28	57	24	109	25.7	52.3	22.0
Hunter's Point	9	17	11	37	24.3	45.9	29.8
Irving M. Scott	1	58	85	144	.7	40.3	59.0
Jean Parker	43	261	227	531	8.1	49.2	42.7
Jefferson	101	458	138	697	14.5	65.7	19.8
J.W. Lilienthal	--	---	12	12	0	0	100.0
John Muir	79	424	301	804	9.8	52.8	37.4
Junipero Serra	68	328	151	547	12.4	60.0	27.6
Kate Kennedy	48	194	77	319	15.0	60.8	24.2
Lafayette	83	628	146	862	10.4	72.8	16.8
Laguna Honda	38	282	63	383	9.9	73.7	16.4
Le Conte	57	348	243	648	8.8	53.9	37.3

Table IV(Continued)

SCHOOL	NUMBER				PER CENT		
	Accelerated	At Grade	Retarded	Total	Accelerated	At Grade	Retarded
Lincoln	12	170	209	391	3.1	43.5	53.4
Longfellow	81	314	82	477	17.0	65.9	17.1
Madison	110	313	61	484	22.8	64.6	12.6
Marshall	80	267	196	543	14.7	49.2	36.1
McKinley	54	296	123	473	11.4	62.6	26.0
Monroe	33	187	129	299	11.1	45.8	43.1
Pacific Heights	80	268	93	441	18.1	60.7	21.2
Parkside	104	412	103	619	16.8	66.6	16.6
Patrick Henry	21	237	204	462	4.5	51.3	44.2
Paul Revere	59	358	191	608	9.7	58.9	31.4
Raphael Weill	109	521	312	942	11.6	55.3	33.1
Redding	34	236	148	418	8.2	56.4	35.4
Rincon	--	31	29	60	--	51.7	48.3
Roosevelt	14	95	58	167	8.4	56.9	34.7
Sanchez	90	484	244	818	11.0	59.2	29.8
San Francisco Hosp.	5	17	23	45	11.1	37.8	51.1
San Miguel	21	139	64	224	9.4	62.0	28.6
Sarah B. Cooper	36	291	169	496	7.2	58.7	34.1
Sheridan	12	225	189	426	2.8	52.8	44.4
Sherman	57	326	163	546	10.4	59.7	29.9
Shriners' Hospital	4	6	19	29	13.8	20.7	65.5
Spring Valley	39	348	162	549	7.1	63.4	29.5
Starr King	35	220	159	414	8.5	53.2	38.3
Sunnyside	74	307	122	503	14.7	61.0	24.3
Sunshine	--	18	42	60	--	30.0	70.0
Sutro	75	325	98	498	15.1	65.2	19.7
Twin Peaks	10	70	25	105	9.5	66.7	23.8
Visitacion Valley	16	203	158	377	4.3	53.7	42.0
Washington Irving	17	173	266	456	3.7	37.9	58.4
West Portal	152	355	59	566	26.8	62.6	10.4
Winfield Scott	84	183	91	308	11.1	59.4	29.5
Yerba Buena	38	266	169	473	8.0	56.3	35.7
TOTAL	4134	21883	11383	37500	11.1	58.3	30.4

Table V

DISTRIBUTION OF ELEMENTARY SCHOOLS (GRADES 1-6)
ACCORDING TO PERCENTAGE OF PUPILS
ACCELERATED, AT GRADE AND RETARDED

PER CENT	ACCELERATED	AT GRADE	RETARDED
96 - 100			III 1
91 - 95			
86 - 90			
81 - 85			
76 - 80			
71 - 75		4	IV 1
66 - 70		9	V 2
61 - 65		16	1
56 - 60		17	3
51 - 55		16	3
46 - 50		5	3
41 - 45		5	9
36 - 40		5	6
31 - 35	1		11
26 - 30	1	3	15
21 - 25	5		10
16 - 20	8	1	11
11 - 15	19		5
6 - 10	33		1
1 - 5	18		
0	I 3	II 1	
Median	9.94%	57.76%	30.66%

I Jesse W. Lilienthal School
Rincon
Sunshine

II Jesse W. Lilienthal School
III Jesse W. Lilienthal School
IV Buena Vista
V Sunshine
Children's Hospital

Tables VI and VII present the same kind of data, but they refer only to grades 7 and 8 in the elementary schools which have these grades. The range of per cent of pupils accelerated is from 0 to 34.4 per cent. One-half of the schools of this class have less than and one-half have more than 17.0 per cent of pupils accelerated. The range for pupils at grade is from 5 per cent (a special school) to 59.4 per cent. One-half of these schools have less than and one-half more than 43.1 per cent of pupils at grade. For retardation, the range is from 14.2 per cent to 95 per cent (a special school). One-half of the schools have more than and one-half have less than 39.8 per cent of pupils retarded in the seventh and eighth grades of the elementary schools.

Similar data for junior high schools are presented in Tables VIII and IX, and for senior high schools in Tables X and XI. The same sort of interpretation may be used in reference to these tables as was used for the tables presenting the data for the elementary schools.

Two charts are also included, one relating to junior high schools, and the other to senior high schools, which show graphically the percentage of pupils who are accelerated, at grade and retarded for each school.

In making comparisons from the tables and charts, it is essential for one to keep in mind the existing differences in the character of pupil population. It should not be assumed that a school whether it be elementary, junior high, or senior high with a high per cent of retardation and low per cent of acceleration is handling its problems in an ineffective manner. The factors which influence each particular situation are not shown in the tables. It may be true that the principal whose school holds a poor comparative position in the tables is doing the most effective work. However, on each principal rests the responsibility of improving the condition in his or her own school. It is probable that in every school some improvement is possible. Whether or not an improvement in conditions is made, rests upon those under whose supervision the school comes.

Table VI

PERCENTAGE OF PUPILS OF ELEMENTARY SCHOOLS (GRADES 7-8) ACCELERATED, AT GRADE AND RETARDED

SCHOOL	NUMBER				PER CENT		
	Accel-erated	At Grade	Re-tarded	Total	Accel-erated	At Grade	Re-tarded
Alamo	61	103	48	212	28.8	48.6	22.6
Argonne	94	136	53	283	33.2	48.1	18.7
Bay View	13	126	170	309	4.2	40.8	55.0
Bernal	38	105	150	293	12.9	35.8	51.3
Buena Vista	2	6	26	34	5.9	17.7	76.4
Children's Hospital	--	1	1	2	--	50.0	50.0
Commodore Sloat	73	143	59	275	26.5	52.0	21.5
Fairmount	41	130	128	299	13.7	43.5	42.8
Farragut	20	57	59	136	14.7	42.0	43.3
Francis Scott Key	18	47	36	101	17.8	46.5	35.7
Franklin	4	40	58	102	3.9	39.1	57.0
Frank McCoppin	26	115	61	202	12.9	57.0	30.1
George Peabody	53	69	32	154	34.4	44.8	20.8
Glen Park	22	78	77	177	12.4	44.0	43.6
Grant	40	95	25	160	25.0	59.4	15.6
Grattan	65	96	36	197	33.0	48.7	18.3
Guadalupe	32	54	56	142	22.5	38.1	39.4
Hunter's Point	2	5	4	11	18.2	45.4	36.4
Jefferson	60	99	69	228	26.4	43.5	30.1
J. W. Lilienthal	--	3	57	60	--	5.0	95.0
Lafayette	63	102	62	227	27.7	45.0	27.3
Laguna Honda	42	92	44	178	23.6	51.7	24.7
Le Conte	12	21	40	73	16.5	28.7	54.8
Longfellow	25	60	52	137	18.3	43.8	37.9
Madison	44	70	35	149	29.5	47.0	23.5
Monroe	90	166	254	510	17.6	32.5	49.9
Pacific Heights	40	70	74	184	21.7	38.0	40.3
Parkside	36	88	33	157	23.0	56.0	21.0
Redding	22	72	68	162	13.5	44.5	42.0
Sheridan	17	54	53	124	13.7	43.5	42.8
Sherman	26	104	98	228	11.4	45.6	43.0
Shriners' Hospital	1	1	5	7	14.3	14.3	71.4
Spring Valley	34	90	89	213	15.9	42.3	41.5
Sunnyside	27	53	32	112	21.4	47.3	28.6
Sunshine	--	2	10	12	--	16.7	83.3
Sutro	49	90	23	162	30.3	55.5	14.2
Visitacion Valley	11	39	53	103	10.7	37.8	51.5
Yerba Buena	21	84	121	226	9.3	37.1	53.6
TOTAL	1224	2766	2351	6341	19.3	43.6	37.1

Table VII

DISTRIBUTION OF ELEMENTARY SCHOOLS (GRADES 7-8)
ACCORDING TO PERCENTAGE OF PUPILS
ACCELERATED, AT GRADE AND RETARDED

PER CENT	ACCELERATED	AT GRADE	RETARDED
91 - 95			1 III
86 - 90			
81 - 85			1 IV
76 - 80			1 V
71 - 75			1 VI
66 - 70			
61 - 65			
56 - 60		3	1
51 - 55		3	5
46 - 50		7	2
41 - 45		12	7
36 - 40		6	4
31 - 35	3	2	1
26 - 30	6	1	4
21 - 25	6		5
16 - 20	5	2	3
11 - 15	10	1	2
6 - 10	2		
1 - 5	3	1 II	
0	3 I		
Median	17.0%	43.1%	39.8%

I Sunshine
Jesse W. Lilienthal
Children's Hospital

II Jesse W. Lilienthal

III Jesse W. Lilienthal

IV Sunshine

V Buena Vista

VI Shriners Hospital

PERCENTAGE OF PUPILS ACCELERATED, AT GRADE AND RETARDED
IN JUNIOR HIGH SCHOOLS

March 1, 1929

School and Enrollment	SEX	ACCELERATED			At Grade	RETARDED		
		More than ½ year	½ year	Total		Total	½ year	More than ½ year
Crocker 811	B	5.86	11.93	17.79	40.09	42.12	13.51	28.61
	G	4.90	13.90	18.80	45.23	35.97	14.99	20.98
	T	5.42	12.82	18.24	42.43	39.33	14.18	25.15
Daniel Webster 378	B	1.99	4.98	6.97	35.82	57.21	13.93	43.28
	G	7.91	7.34	15.25	28.82	55.93	16.95	38.98
	T	4.76	6.09	10.85	32.54	56.61	15.34	41.27
Everett 1516	B	4.75	9.00	13.75	38.75	47.50	16.00	31.50
	G	4.89	12.01	16.90	49.16	33.94	13.69	20.25
	T	4.82	10.42	15.24	43.67	41.09	14.91	26.18
Francisco 1318	B	1.81	6.40	8.21	29.48	62.31	14.74	47.57
	G	1.84	5.84	7.68	37.90	54.42	16.03	38.39
	T	1.82	6.15	7.97	33.30	58.73	15.33	43.40
Hamilton 777	B	3.46	6.17	9.63	34.07	56.30	12.84	43.46
	G	3.23	8.87	12.10	46.24	41.66	16.93	24.73
	T	3.35	7.46	10.81	39.90	49.29	14.80	34.49
Horace Mann 1515	B	3.96	8.43	12.39	41.00	46.61	15.20	31.41
	G	4.24	12.02	16.26	43.85	39.89	15.71	24.18
	T	4.09	10.17	14.26	42.38	43.36	15.44	27.92
John Swett 543	B	3.99	9.63	13.62	31.23	55.15	15.28	39.87
	G	7.03	7.85	14.88	39.67	45.45	19.42	26.03
	T	5.34	8.84	14.18	34.99	50.83	17.13	33.70
Noe Valley 408	B	5.21	8.06	13.27	41.71	45.02	18.01	27.01
	G	7.11	12.18	19.29	49.75	30.96	14.72	16.24
	T	6.13	10.05	16.18	45.59	38.23	16.42	21.81
Portola (includes Grade 10) 544	B	4.00	11.27	15.27	35.64	49.09	14.91	34.18
	G	6.69	7.07	13.76	47.58	38.66	16.73	21.93
	T	5.33	9.19	14.52	41.54	43.94	15.81	28.13
Total 7810	B	3.67	8.43	12.30	36.51	51.19	14.93	36.26
	G	4.63	10.02	14.65	43.88	41.47	15.75	25.72
	T	4.23	9.18	13.41	39.97	46.62	15.31	31.31

The table above shows the per cent of boys, girls, and total boys and girls who are accelerated, at grade and retarded, for each of the nine junior high schools. The chart following represents the same data graphically.

Table VIII

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPILS ACCELERATED, AT GRADE AND RETARDED

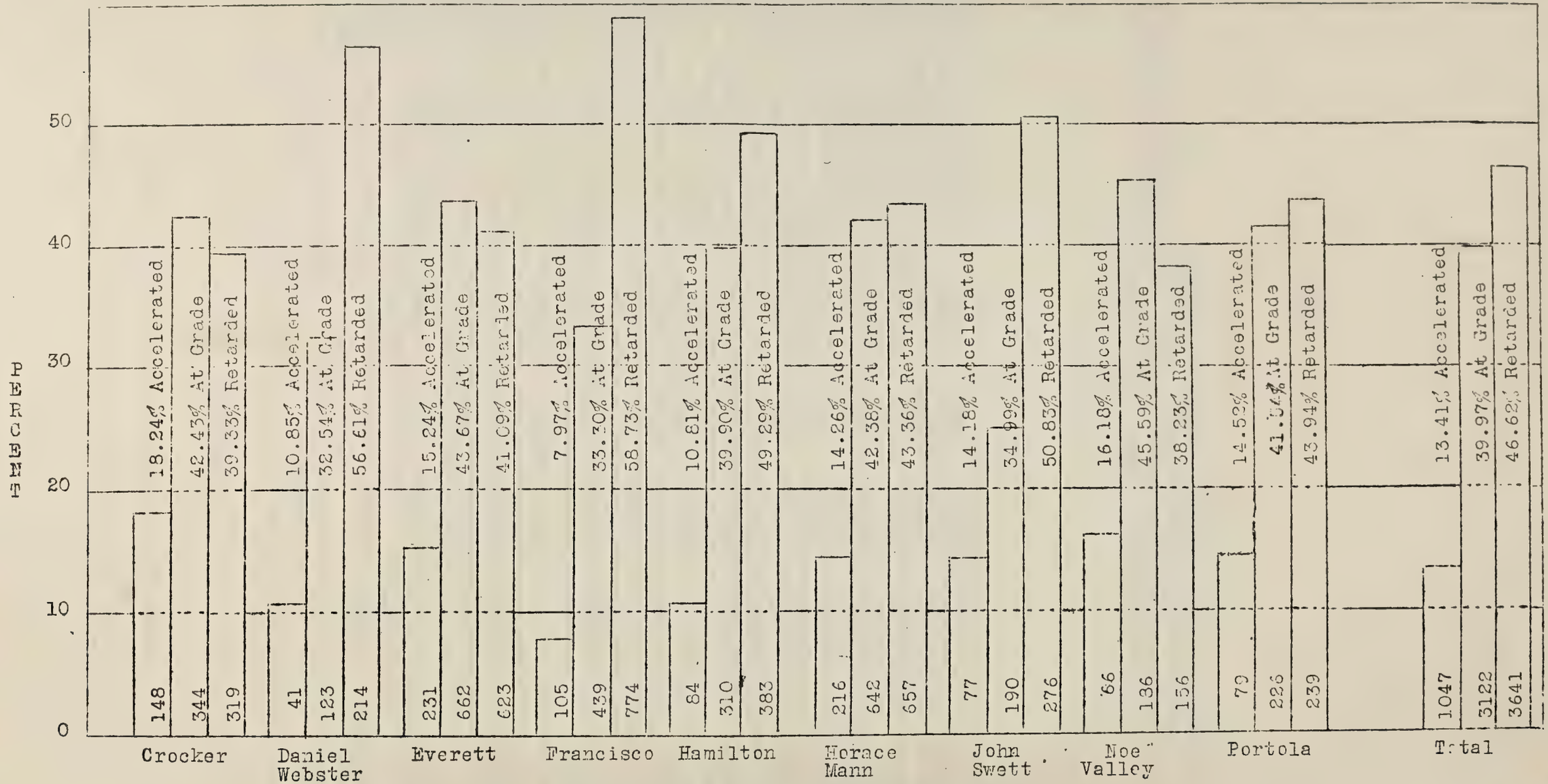
School	Accelerated		At Grade		Retarded	
	No.	%	No.	%	No.	%
Crocker	148	18.24	344	42.43	319	39.33
Daniel Webster	41	10.85	123	32.54	214	56.61
Everett	231	15.24	622	43.67	623	41.09
Francisco	105	7.97	439	33.30	774	58.73
Hamilton	84	10.81	310	39.90	383	49.29
Horace Mann	216	14.26	642	42.38	657	43.36
John Swett	77	14.18	190	34.99	276	50.83
Noe Valley	66	16.18	186	45.59	156	38.23
Portola	79	14.52	226	41.54	239	43.94
TOTAL	1047	13.41	3122	39.97	3041	46.62

Table IX

DISTRIBUTION OF JUNIOR HIGH SCHOOLS ACCORDING TO PERCENTAGE OF PUPILS ACCELERATED, AT GRADE AND RETARDED

PER CENT	ACCELERATED	AT GRADE	RETARDED
56 - 60			2
51 - 55			
46 - 50			2
41 - 45		5	3
36 - 40		1	2
31 - 35		3	
26 - 30			
21 - 25			
16 - 20	2		
11 - 15	4		
6 - 10	3		
Median	12.87%	41.50%	45.16%

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPILS ACCELERATED, AT GRADE AND RETARDED



(Figures above the base line indicate the number of pupils)

PERCENTAGE OF PUPILS ACCELERATED, AT GRADE, AND

RETARDED IN SENIOR HIGH SCHOOLS-BY SCHOOLS

SPRING TERM, 1929

School and Enrollment	SEX	ACCELERATED			At Grade	RETARDED		
		More than ½ year	½ year	Total		Total	½ year	More than ½ year
Balboa 937	B	4.9	9.4	14.3	41.5	44.2	14.4	29.8
	G	3.3	14.7	18.0	43.9	38.1	16.9	21.2
	T	4.2	11.9	16.1	42.5	41.4	15.8	25.6
Galileo 2301	B	7.5	11.4	18.9	37.2	43.9	13.8	30.1
	G	8.8	13.7	22.5	45.8	31.7	13.1	18.6
	T	8.0	12.5	20.5	40.8	38.7	13.5	25.2
Girls 1215	B	-	-	-	-	-	-	-
	G	12.4	16.4	28.8	41.6	29.6	12.4	17.2
	T	12.4	16.4	28.8	41.6	29.6	12.4	17.2
High School of Commerce 2186	B	5.2	8.8	14.0	34.0	52.0	17.5	34.5
	G	5.2	10.1	15.3	46.2	38.5	18.4	20.1
	T	5.2	9.7	14.9	41.9	43.2	18.0	25.2
Lowell 2323	B	14.4	19.9	34.3	41.5	24.2	10.6	13.6
	G	16.4	24.4	40.8	43.0	16.2	8.8	7.4
	T	15.5	22.0	37.5	42.5	20.0	10.0	10.0
Mission 2232	B	6.4	11.6	18.0	45.1	36.9	16.6	20.3
	G	12.9	16.9	29.8	43.5	26.7	14.3	12.4
	T	9.5	14.2	23.7	44.4	31.9	15.7	16.2
Polytechnic 2148	B	6.0	10.2	16.2	39.2	44.6	17.9	26.7
	G	7.4	14.4	21.8	49.0	29.2	15.5	13.7
	T	6.4	11.3	17.7	42.3	40.0	17.4	22.6
Total 13342	B	7.9	12.4	20.3	39.9	39.8	15.1	24.7
	G	10.0	15.7	25.7	44.7	29.6	14.0	15.6
	T	9.0	14.1	23.1	42.2	34.7	14.6	20.1

The table above shows the per cent of boys, girls and total boys and girls who are accelerated, at grade and retarded, in the seven senior high schools. Following are two charts which represent the same facts in graphical form.

Table X

PERCENTAGE OF SENIOR HIGH SCHOOL PUPILS ACCELERATED, AT GRADE AND RETARDED

School	Accelerated		At Grade		Retarded	
	No.	%	No.	%	No.	%
Balboa	151	16.1	399	42.5	387	41.4
Galileo	470	20.5	940	40.8	891	38.7
Girls	350	28.8	506	41.6	359	29.6
High School of Commerce	322	14.9	919	41.9	945	43.2
Lowell	872	37.5	989	42.5	462	20.0
Mission	525	23.7	989	44.4	718	31.9
Polytechnic	384	17.7	907	42.3	857	40.0
TOTAL	3074	23.1	5649	42.2	4619	34.7

Table XI

DISTRIBUTION OF SENIOR HIGH SCHOOLS ACCORDING TO PERCENTAGE OF PUPILS ACCELERATED, AT GRADE AND RETARDED

PER CENT	ACCELERATED	AT GRADE	RETARDED
41 - 45		6	2
36 - 40	1	1	2
31 - 35			1
26 - 30	1		1
21 - 25	1		
16 - 20	3		1
11 - 15	1		
Median	20.2	43.9	38.5

PERCENTAGE OF SENIOR HIGH SCHOOL PUPILS ACCELERATED, AT GRADE AND RETARDED

(Figures above the base line indicate the number of pupils)

Balboa	151	16.1%	Accelerated
	399	42.5%	At Grade
	387	41.4%	Retarded
Galileo	470	20.5%	Accelerated
	940	40.8%	At Grade
	891	38.7%	Retarded
Girls	350	28.8%	Accelerated
	506	41.6%	At Grade
	359	29.6%	Retarded
High School of Commerce	322	14.9%	Accelerated
	919	41.9%	At Grade
	945	43.2%	Retarded
Lowell	872	37.5%	Accelerated
	989	42.5%	At Grade
	462	20.0%	Retarded
Mission	525	23.7%	Accelerated
	989	44.4%	At Grade
	718	31.9%	Retarded
Polytechnic	324	17.7%	Accelerated
	907	42.3%	At Grade
	857	40.0%	Retarded
Total	3074	23.1%	Accelerated
	5649	42.2%	At Grade
	4619	34.7%	Retarded

HEMOSEE

0 10 20 30 40

DISTRIBUTION OF SENIOR HIGH SCHOOL PUPILS, ACCEPTED, 1ST GRADE AND RETARDED, BY SCHOOLS AND TOTAL

SPRING TERM 1929

BALBOA	16.1%	151
	42.5%	399
	41.4%	387
GALILEO	20.5%	470
	40.8%	940
	38.7%	891
GIRLS	28.3%	350
	41.6%	506
	29.6%	359
COMMERCE	14.9%	322
	41.9%	919
	43.2%	945
LOWELL	37.5%	872
	42.5%	989
	20.0%	462
MISSION	23.7%	525
	44.4%	989
	31.9%	718
POLYTECHNIC	17.7%	384
	42.3%	907
	40.0%	857
TOTAL SENIOR HIGH	23.1%	3074
	42.2%	5649
	34.7%	4619

0 200 400 600 800 1000

1000 2000 3000 4000 5000

III SIGNIFICANCE OF ACCELERATION AND RETARDATION

The outstanding facts which are revealed by the data presented thus far, but not particularly emphasized, are first, the variability in ages of the pupils enrolled in each grade or half-grade and second, variability of grade for the children of the same chronological age. In order to call attention to these two phases of the study, charts have been constructed and included in the study which comprise a set of graphs for each phase.

The first series of graphs relatesto the variation in ages of the pupils of each half-grade from low-one to high-twelve. The children of both sections of the first grade range from 6 to 12 years. For both parts of grade 2 the range is 6 to 13 years and so on through all the half-grades.

The following table shows the various ranges for each half-grade.

Range	Half Grades
7 yrs. 0 mos. to 7 yrs. 11 mos.	L-1, L-2, L-12, H-12
8 yrs. 0 mos. to 8 yrs. 11 mos.	L-2, H-2, L-11, H-11
9 yrs. 0 mos. to 9 yrs. 11 mos.	L-3, H-10
10 yrs. 0 mos. to 10 yrs. 11 mos.	H-3, H-4, H-5, H-6, H-7, L-8, H-8, L-9, H-9, H-10
11 yrs. 0 mos. to 11 yrs. 11 mos.	L-4, L-5, L-6, L-7

The median range of age for all half-grades is 10.2 years, or in other words 50% of the half-grades have enrolled in them pupils varying more than 10.2 years in age. In 50 per cent of the half-grades, the variability in age was from 10.2 years to 11.9 years, while in the other fifty per cent the range was from 7 years to 10.2 years. Thus, there is in each half-grade a great difference in the age of pupils. In grade 4 there are pupils from 7 years to 17 years of age and in grade 6 there are children from 8 years to 18 years of age. The widest range exists in the grades 4 to 7. In grades where the majority of pupils are young children, there are many pupils of adolescent age, while in grades where the majority are of adolescent age, many young children are enrolled.

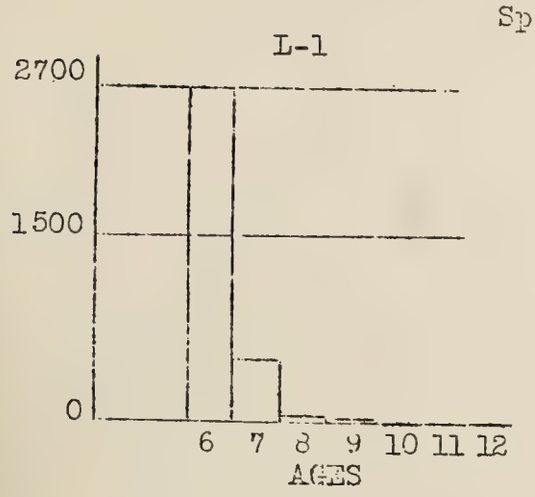
On the other hand, the second series of graphs shows the range of half-grades in which the pupils of each age are enrolled. From the graph showing the distribution of the six-year old pupils, we discover that they are distributed through four half-grades, L-1, H-1, L-2 and H-2. The widest distribution of grades is found from ages 12 to 17. Twelve-year old pupils are distributed from L-1 to H-10 Sixteen-year old pupils are distributed from H-3 to H-12.

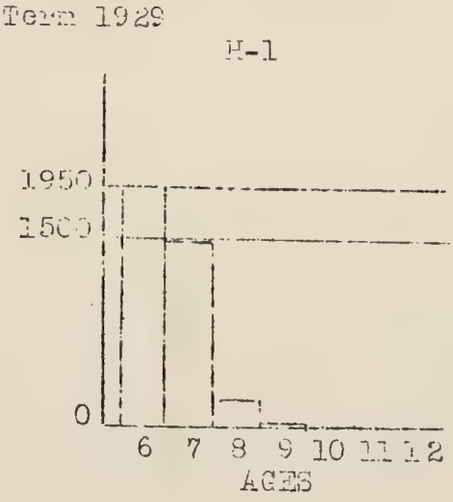
The following tabulation shows the distribution.

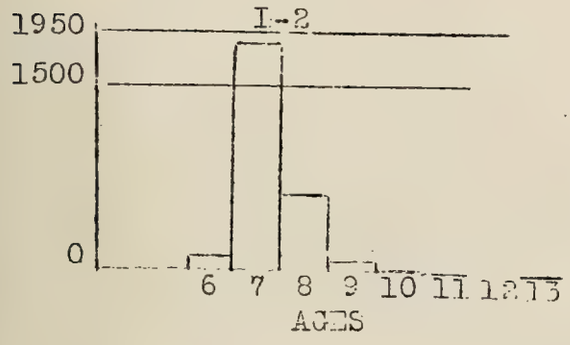
Age	Distribution of half-grades	Range of Half Grades
5 yrs. 9 mos. to 6 yrs. 8 mos.	L-1 to H-2	4
6 yrs. 9 mos. to 7 yrs. 8 mos.	L-1 to L-5	9
7 yrs. 9 mos. to 8 yrs. 8 mos.	L-1 to H-5	10
8 yrs. 9 mos. to 9 yrs. 8 mos.	L-1 to L-6	11
9 yrs. 9 mos. to 10 yrs. 8 mos.	L-1 to L-8	15
10 yrs. 9 mos. to 11 yrs. 8 mos.	H-1 to L-9	16
11 yrs. 9 mos. to 12 yrs. 8 mos.	L-1 to H-9 and H-10	19
12 yrs. 9 mos. to 13 yrs. 8 mos.	H-2 and H-3 to H-10	16
13 yrs. 9 mos. to 14 yrs. 8 mos.	L-2 and L-3 to H-11	19
14 yrs. 9 mos. to 15 yrs. 8 mos.	L-3, H-3 and H-4 to H-12	19
15 yrs. 9 mos. to 16 yrs. 8 mos.	H-3 to H-12	19
16 yrs. 9 mos. to 17 yrs. 8 mos.	L-4 to H-12	18
17 yrs. 9 mos. to 18 yrs. 8 mos.	H-4 and L-6 to H-12	15
18 yrs. 9 mos. to 19 yrs. 8 mos.	L-7 to H-12	12
19 yrs. 9 mos. to 20 yrs. 8 mos.	H-7 and H-8 to H-12	10
20 yrs. 9 mos. and over	L-9 to H-12	8

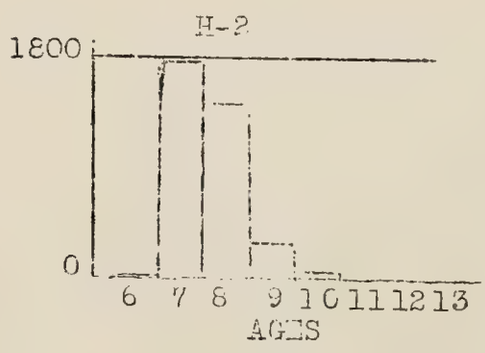
The median range of half-grades for all ages is 15½. Thus, one-half of the ages represented are distributed in more than 15½ half-grades, while the other one-half are distributed in less than 15½ half-grades. This series of graphs tells the same story as the preceding series and the conclusions to be drawn are very similar.

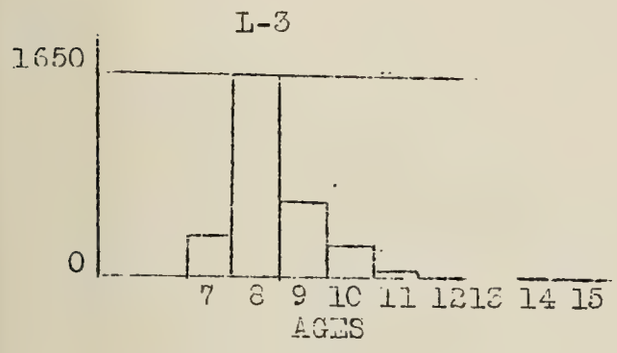
DISTRIBUTION OF PUPILS IN EACH HALF GRADE
BY AGES
Spring Term 1929

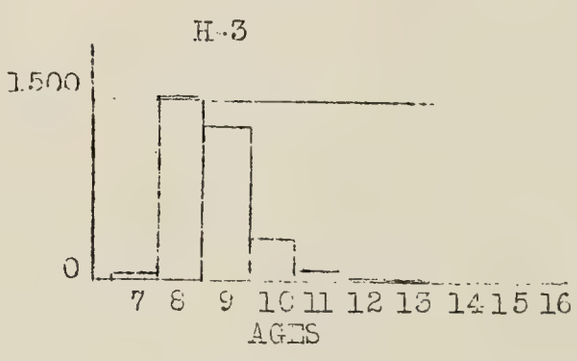


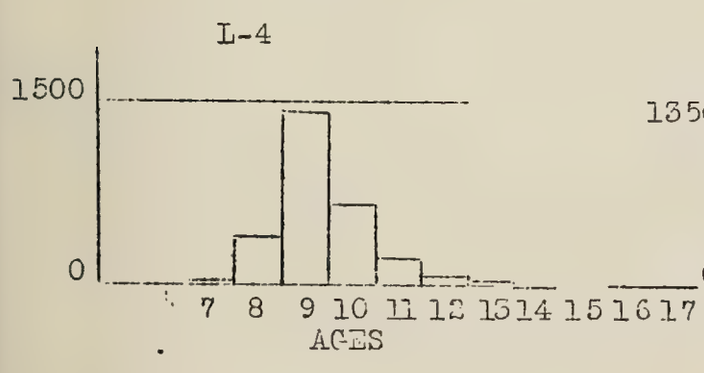


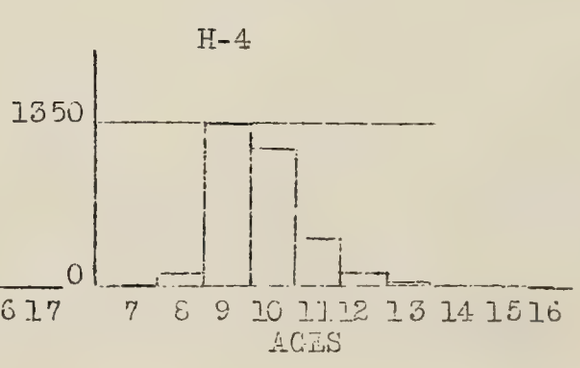


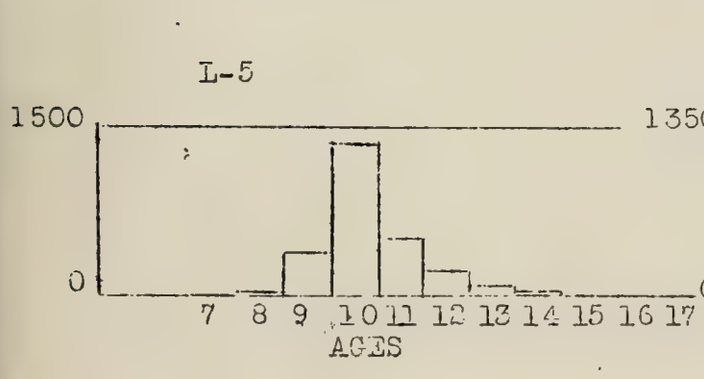


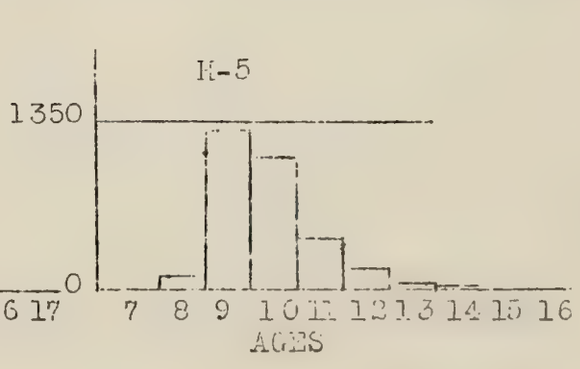


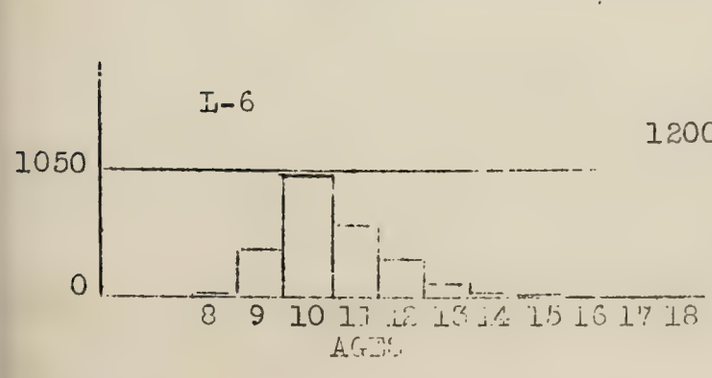


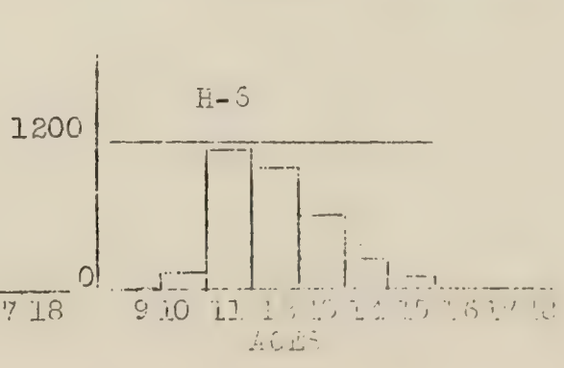






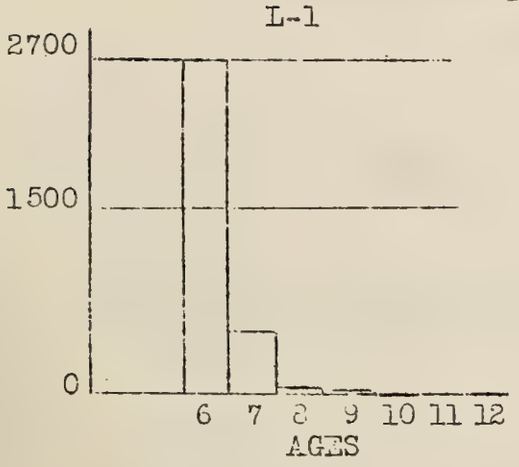




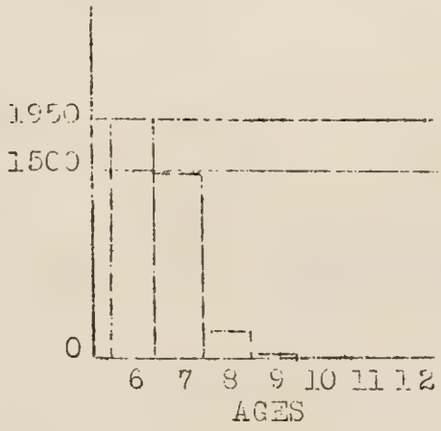


DISTRIBUTION OF PUPILS IN EACH HALF GRADE
BY AGES
Spring Term 1929

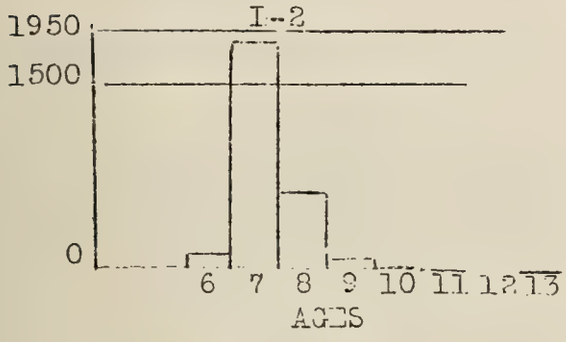
L-1



H-1



I-2



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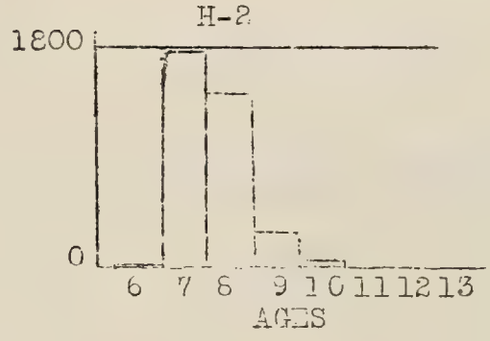
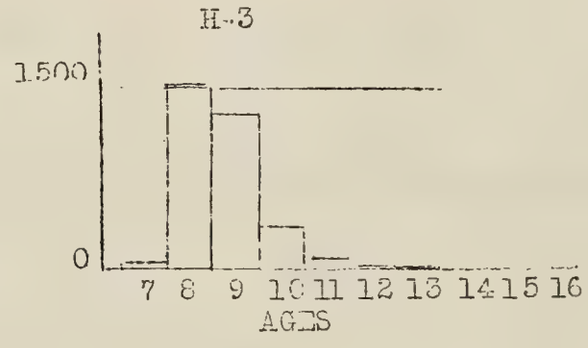


L-3

H-3



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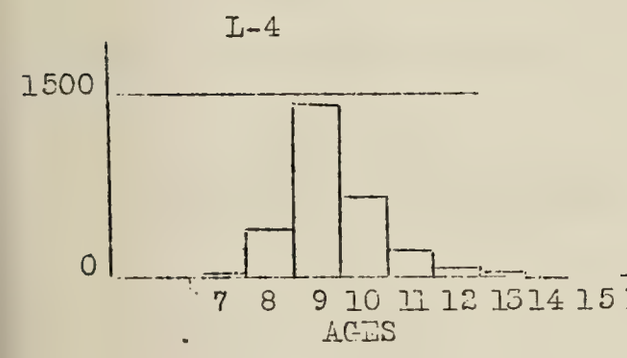

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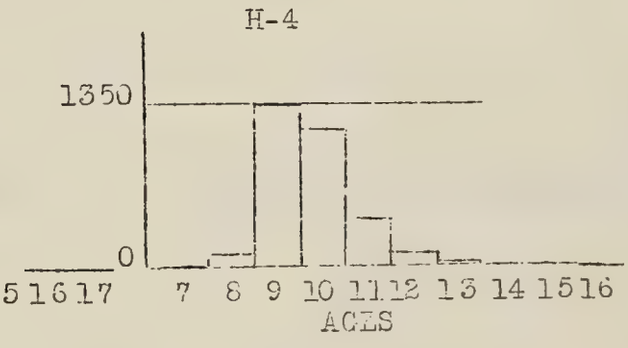

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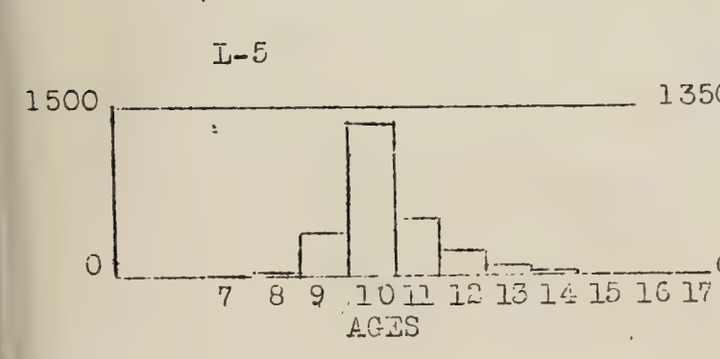

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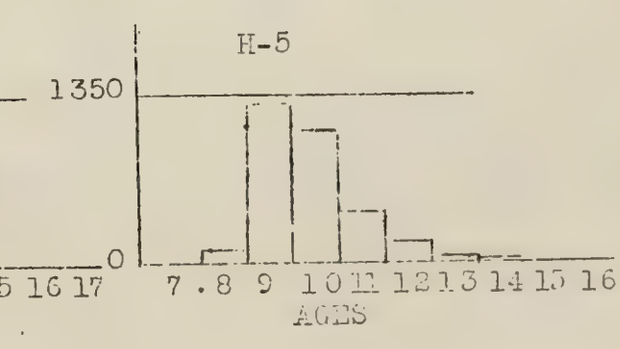

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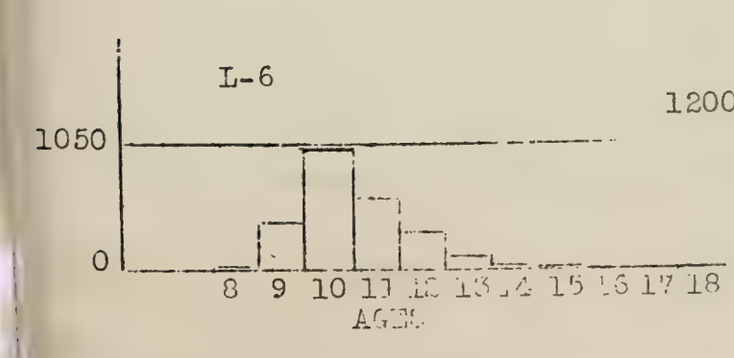

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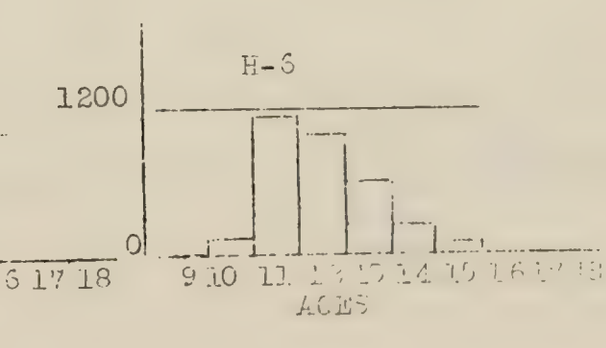
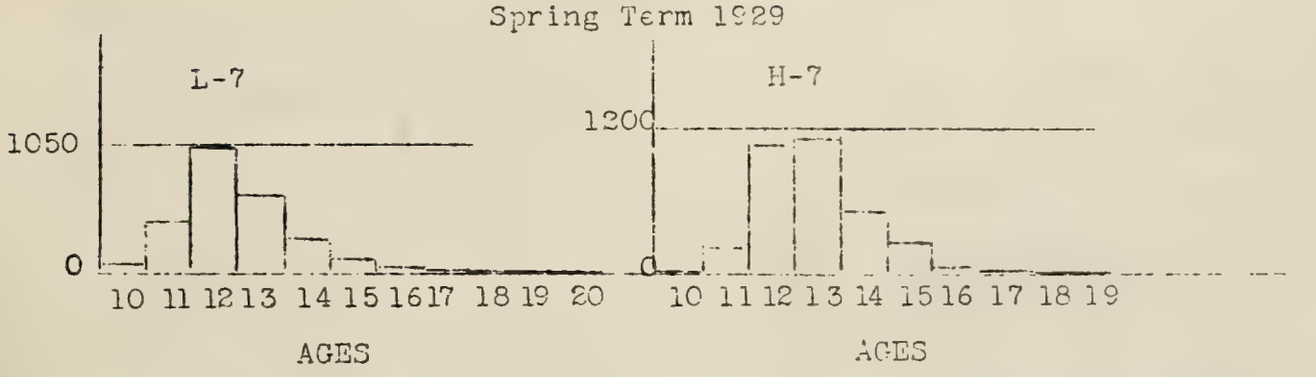
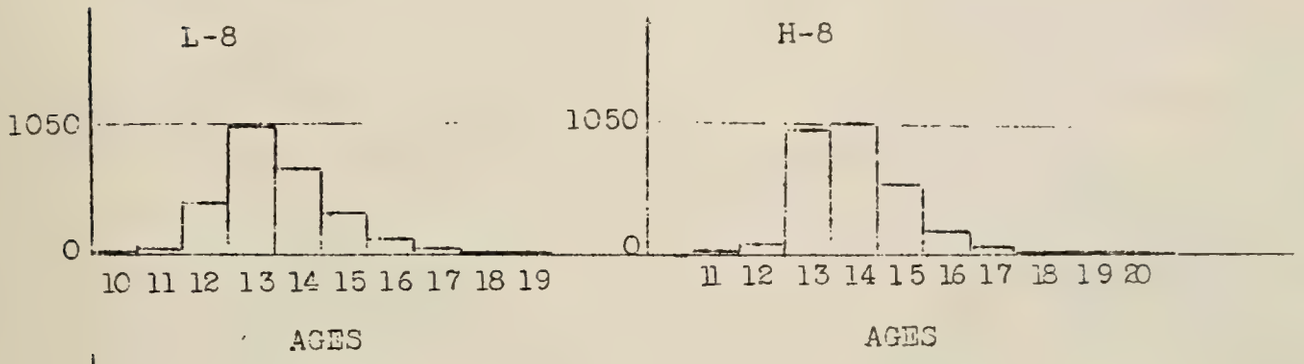
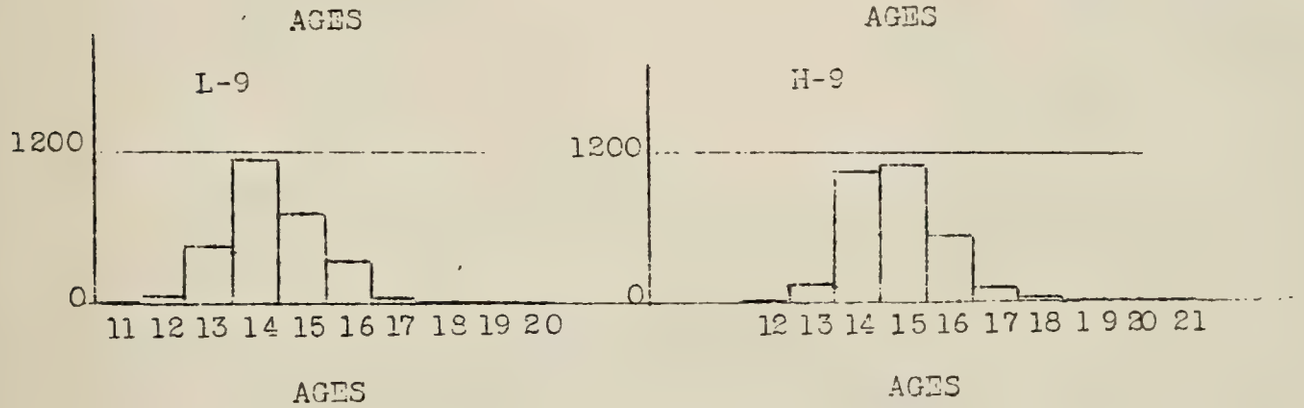
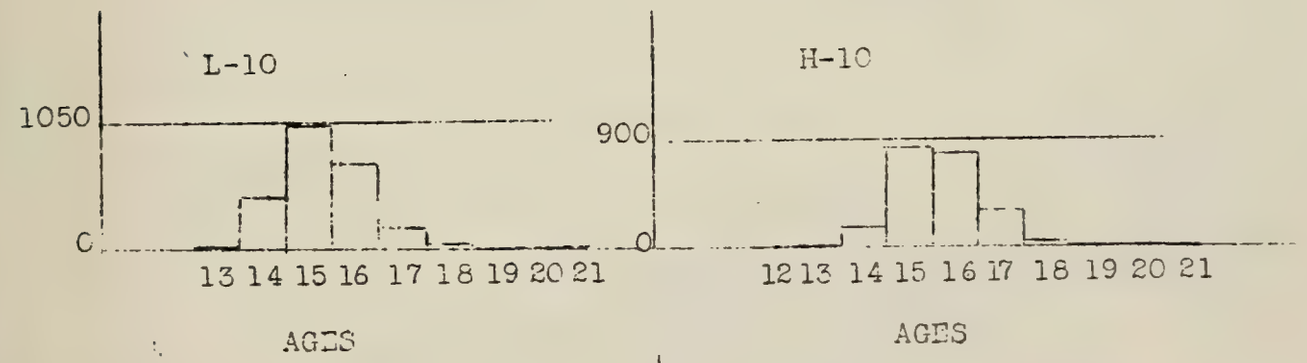


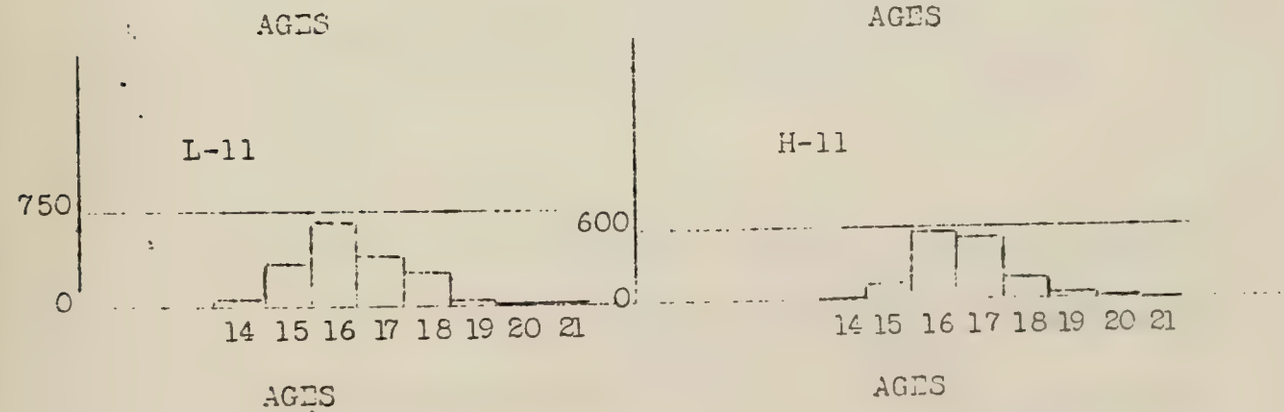
DISTRIBUTION OF PUPILS IN EACH HALF GRADE
BY AGES
Spring Term 1929

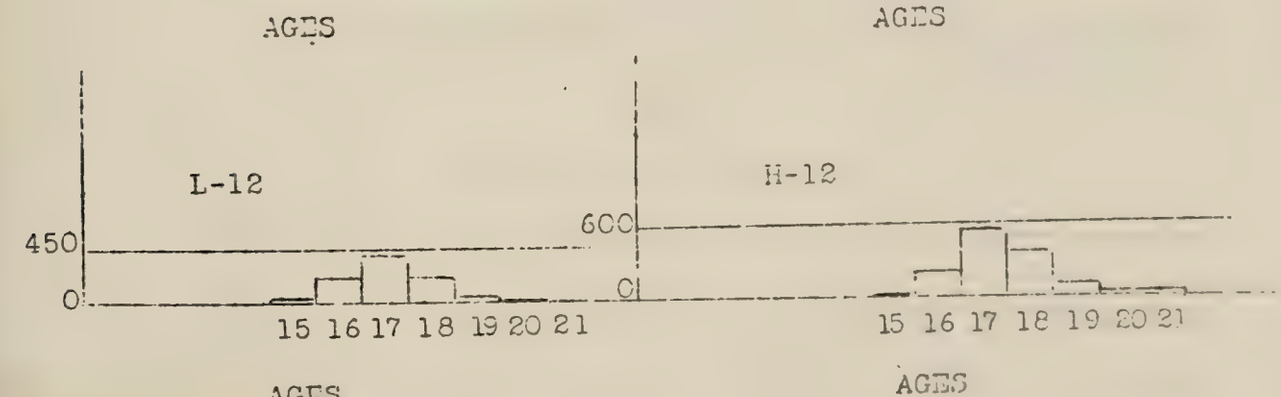




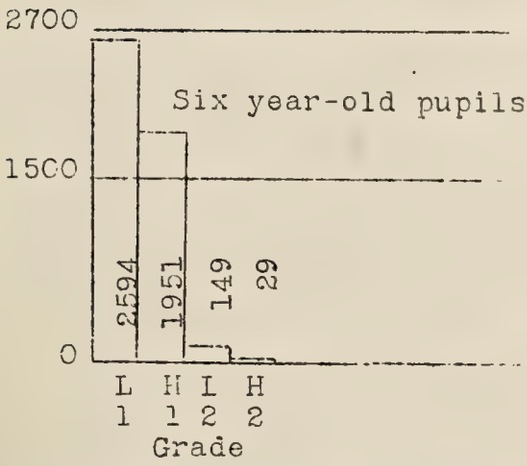


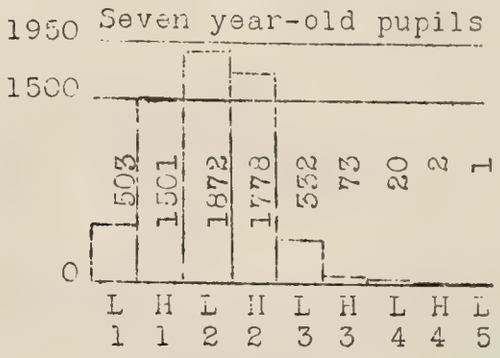


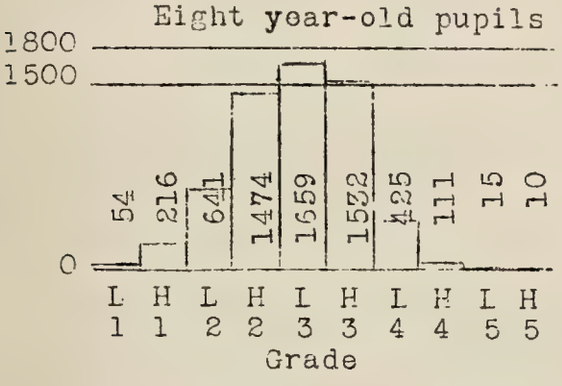


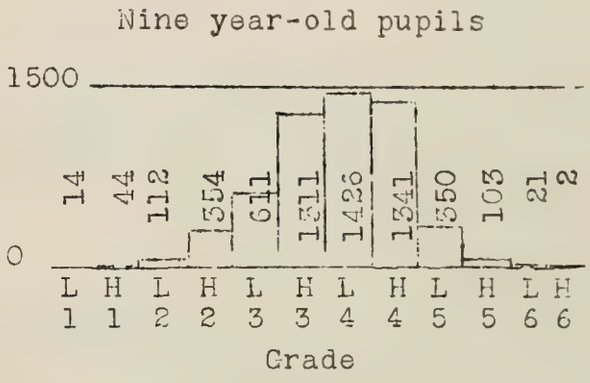


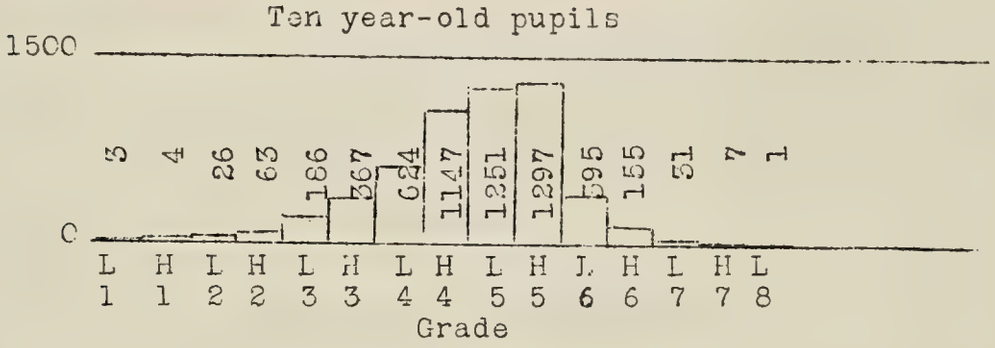
DISTRIBUTION OF PUPILS OF EACH AGE BY HALF GRADES
Spring Term 1929

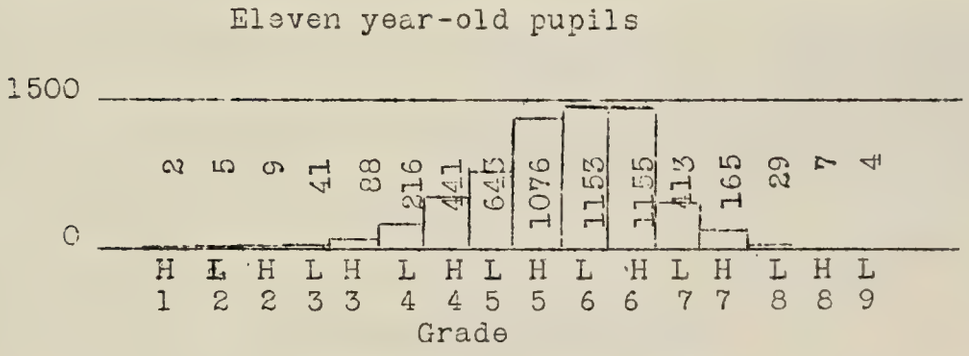


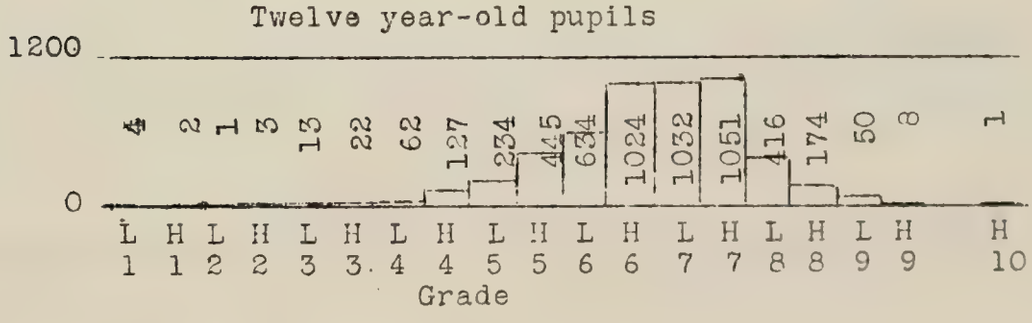


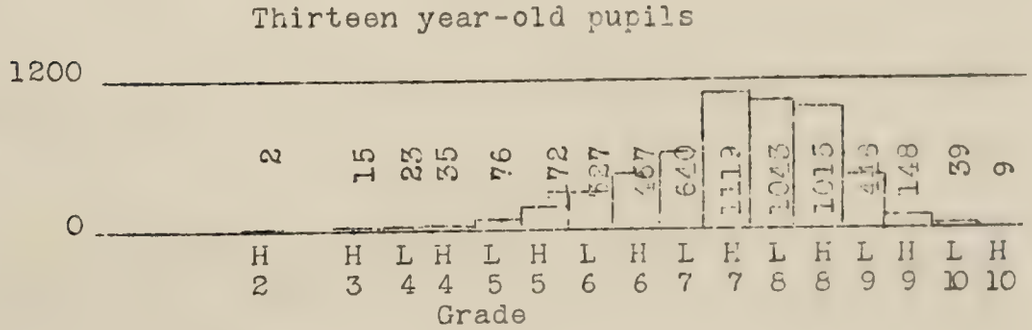






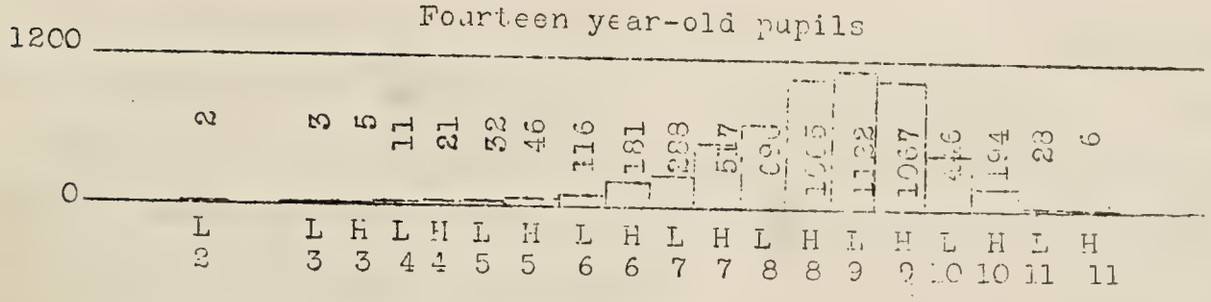






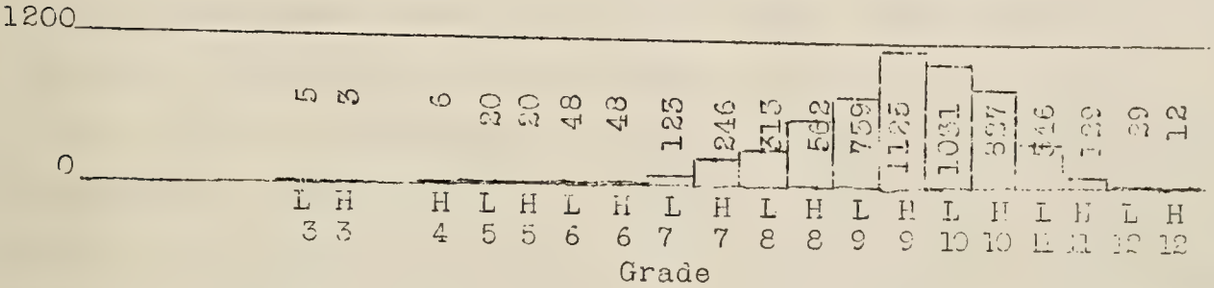
DISTRIBUTION OF PUPILS OF EACH AGE BY HALF GRADES
Spring Term 1929

Fourteen year-old pupils



Grade

Fifteen year-old pupils



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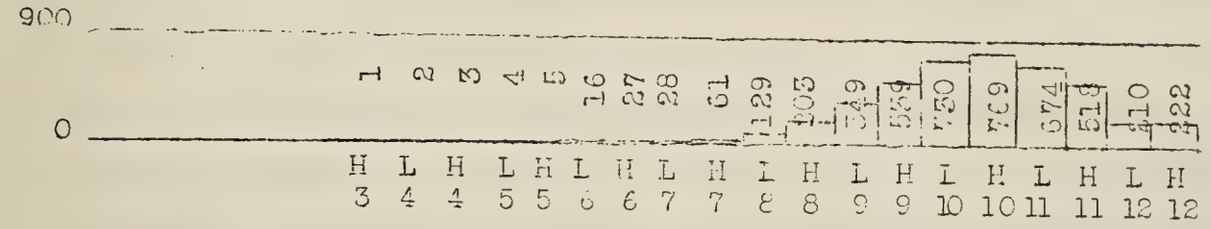
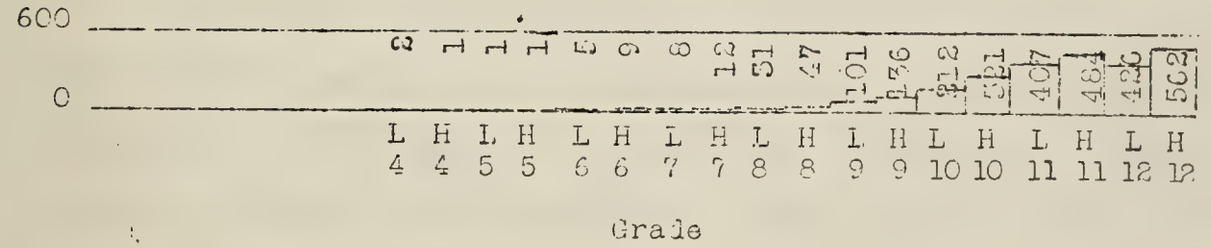


Grade

Seventeen year-old pupils



Grade

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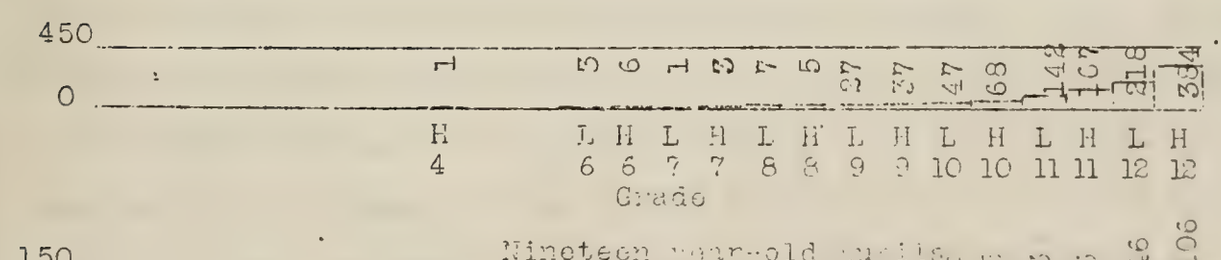
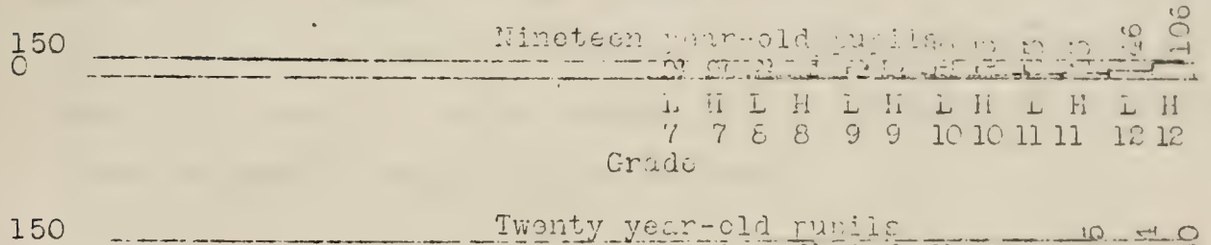


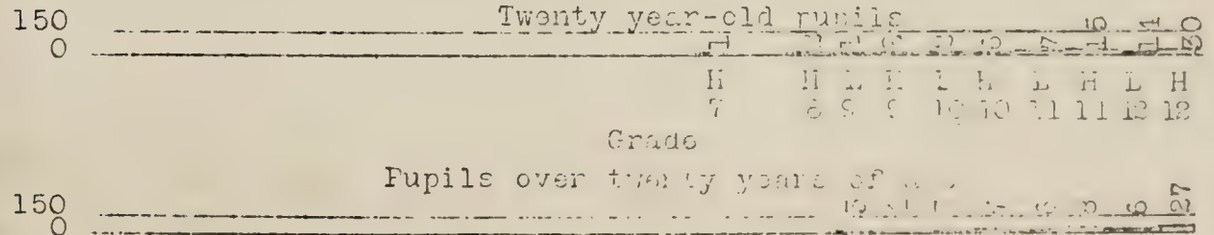
Grade

Nineteen year-old pupils



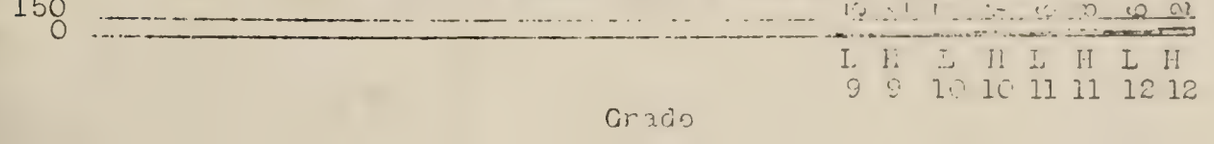
Grade

Twenty year-old pupils



Grade

Pupils over twenty years of age



Grade

IV JUNIOR HIGH SCHOOL GRADES

A special study was made of the acceleration and retardation of the junior high school grades. Data are presented for a comparison between the ninth grade pupils of junior and senior high schools and for a comparison between seventh and eighth grade pupils of the elementary and junior high schools.

There were in the elementary schools, 6304 pupils in the seventh and eighth grades, while the number in the junior high schools was 5187. Table XII gives the number and per cent of pupils accelerated, at grade and retarded for both boys and girls of the seventh and eighth grades in both elementary and junior high schools. Table XIII is a summary of Table XII. It will be noted that these grades of the elementary schools have 19.1 per cent acceleration as against 13.5 per cent for junior high pupils in the two grades. The per cent of pupils at grade in elementary schools is 43.9 per cent, while for junior high schools the per cent is 38.2. For retarded pupils, the per cent in elementary schools is 37.0, while in junior high schools it is 48.3. Similar data for the ninth grade of junior high schools and for ninth grade of senior high schools are presented in Table XIV and XV.

Table XIV gives detailed data relating to the acceleration and retardation of both boys and girls of the two sections of the ninth grade in both junior and senior high schools, while Table XV presents a summary of the situation. From it we learn that the acceleration of the ninth grade is 13.2 per cent in junior high schools, and 19.9 per cent in senior high schools. In the junior high schools, 43.0 per cent of the ninth grade pupils are at grade, while for senior high schools, the percentage is 41.6 per cent. In the senior high schools 38.5 per cent of the ninth grade pupils are retarded, as against 43.8 per cent for the junior high schools. At first glance these figures also seem to indicate an unfavorable situation for the junior high schools. Before making such a judgment, it is necessary to take account of several other factors.

In general, the pupils of the junior high schools are of different character than the pupils of the elementary schools (which have seventh and eighth grades) and the ninth grade pupils of the senior high schools. If one will study the map of San Francisco, with the location of the schools in question in mind, the data presented by the tables are not surprising. In general the elementary schools having grades seven and eight, furnish the ninth grade population of the senior high schools, and the junior high school population comes from elementary schools having grades one to six.

Again the junior high school and senior high school have underlying their curricula, an unlike philosophy, which probably has a determining effect upon the situation. It is probably true that the junior high school, on account of its curricula and organization, is more attractive than the senior high school to the retarded elementary school pupil.

Also in the junior high school 12 per cent of the pupils of the ninth grade are over 16 years of age, while in the senior high schools only 11 per cent of pupils in the ninth grade are over 16 years of age. Eleven and forty-one one hundredths per cent of the pupils in grades seven and eight of the junior high schools are over 15 years of age, while only 6.66 per cent of the pupils of these grades in the elementary schools are over 15. The facts seem to show that in some way, overage pupils find themselves enrolled in the junior high schools.

It is also probably true that in the case of retarded pupils they are more infrequently promoted to the tenth grade from junior high school than from the ninth to tenth in high school. Many pupils who desire to work at the age of 16 years do not consider promotion and change of school worth while. On the other hand, there is a tendency (this must not be construed as a criticism) to push the overage retarded pupils of the sixth grade on into the junior high seventh grade. The per cent of retardation in the junior high school is as follows:

Seventh Grade	47.0
Eighth Grade	49.4
Ninth Grade	43.8

This would not seem to indicate that retardation increases in the junior high school grades. On the other hand, the per cent of retardation in the seventh and eighth grades of the elementary

schools and the ninth grade of the senior high school is as follows:

Seventh Grade	36.8
Eighth Grade	37.1
Ninth Grade	38.5

It can be seen that the increase in per cent of retardation is very slight in this case. Although the per cent of retardation in the junior high schools is greater than the retardation of grades 7, 8 and 9 in other schools, the junior high is apparently dealing with its own problem just as effectively as pupils of junior high school grade are dealt with in the other type of organization.

By and large, as the situation exists in San Francisco, it may be said that a direct comparison of the pupils of the junior high school grades with like grades in other schools is hardly possible. When the 6-3-3 plan is finally adopted for all the pupils of the city, more direct comparison can be made.

Table XII

COMPARISON BETWEEN JUNIOR HIGH AND ELEMENTARY SCHOOLS

SEVENTH AND EIGHTH GRADE ACCELERATION AND RETARDATION

SPRING TERM 1929

		BOYS								GIRLS							
		SEVENTH				EIGHTH				SEVENTH				EIGHTH			
		LOW		HIGH		LOW		HIGH		LOW		HIGH		LOW		HIGH	
		Jr H	Elem	Jr H	Elem	Jr H	Elem	Jr H	Elem	Jr H	Elem	Jr H	Elem	Jr H	Elem	Jr H	Elem
Accelerated	More Than 1 Year	No	72	56	62	45	23	46	24	67	31	50	29	66	34	50	21	69
		%	5.6	4.3	4.2	5.0	3.4	6.4	3.2	8.3	6.3	7.1	4.3	7.5	6.0	7.3	2.9	8.2
	½ Year	No	55	91	40	90	61	85	58	86	56	93	65	126	56	93	71	112
		%	9.6	11.3	5.6	10.2	9.0	11.5	8.0	10.7	11.3	13.2	9.5	14.3	9.7	13.5	10.0	13.3
	Total	No	87	147	81	135	84	129	82	153	87	143	94	192	90	143	92	181
		%	15.2	16.0	10.0	15.2	12.4	17.9	11.2	19.0	17.6	20.3	13.8	21.8	15.7	20.8	12.9	21.5
At Grade		No	174	345	294	364	212	281	263	343	197	316	309	433	242	308	296	305
		%	30.1	43.6	39.7	41.6	31.4	39.1	36.1	42.4	39.8	45.4	45.3	48.9	42.0	44.8	41.7	45.8
Retarded	Total	No	316	320	369	378	379	310	384	311	213	242	279	256	244	237	322	274
		%	54.7	40.4	49.5	44.2	56.2	43.0	52.7	38.6	42.6	34.3	40.9	29.3	42.5	34.4	45.4	33.7
	½ Year	No	94	114	94	153	92	107	115	114	73	101	90	125	90	100	125	114
		%	16.2	14.4	12.5	15.2	13.6	14.8	15.8	14.2	14.7	14.4	13.2	14.3	15.5	14.6	17.6	15.6
	More Than ½ Year	No	222	206	275	245	287	203	269	197	139	141	189	133	154	137	197	160
		%	38.5	26.0	37.0	28.0	42.6	28.2	36.9	24.2	27.9	19.9	27.7	15.0	26.8	19.8	27.8	19.1
TOTAL		No	577	792	744	877	675	720	729	807	496	701	682	881	576	688	710	838
		%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

JUNIOR HIGH AND ELEMENTARY SCHOOLS
COMPARISON OF ACCELERATION AND RETARDATION FOR SEVENTH AND EIGHTH GRADES

BOYS

10 20 30 40 50

Low Seventh

Jr. H. Elem.
- Accelerated 15.2
- At Grade 30.1
- Retarded 5

Jr. H. Elem.
- Accelerated 16.0
- At Grade 43.6
- Retarded 40.4

Low Eighth

Jr. H. Elem.
- Accelerated 10.8
- At Grade 39.7
- Retarded 49.5

Jr. H. Elem.
- Accelerated 15.2
- At Grade 41.6
- Retarded 43.2

Low Seventh

Jr. H. Elem.
- Accelerated 12.4
- At Grade 31.4
- Retarded 56.2

Jr. H. Elem.
- Accelerated 17.9
- At Grade 39.1
- Retarded 43.0

Low Eighth

Jr. H. Elem.
- Accelerated 11.2
- At Grade 36.1
- Retarded 5.27

Jr. H. Elem.
- Accelerated 19.0
- At Grade 42.4
- Retarded 38.6

GIRLS

Low Seventh

Jr. H. Elem.
- Accelerated 17.6
- At Grade 39.8
- Retarded 42.6

Jr. H. Elem.
- Accelerated 20.3
- At Grade 45.4
- Retarded 34.3

Low Eighth

Jr. H. Elem.
- Accelerated 13.8
- At Grade 45.3
- Retarded 40.9

Jr. H. Elem.
- Accelerated 21.8
- At Grade 48.9
- Retarded 29.3

Low Seventh

Jr. H. Elem.
- Accelerated 15.7
- At Grade 42.0
- Retarded 42.3

Jr. H. Elem.
- Accelerated 20.8
- At Grade 44.8
- Retarded 34.4

Low Eighth

Jr. H. Elem.
- Accelerated 12.9
- At Grade 41.7
- Retarded 45.4

Jr. H. Elem.
- Accelerated 21.5
- At Grade 45.3
- Retarded 32.7

Table XIII

SUMMARY OF COMPARISON BETWEEN
ELEMENTARY AND JUNIOR HIGH SCHOOLS
SEVENTH AND EIGHTH GRADE - ACCELERATION
AND RETARDATION
SPRING TERM 1929

		ACCELERATED				RETARDED		
		More Than ½ Year	½ Year	Total	At Grade	Total	½ Year	More Than ½ Year
Elementary Schools	No	429	774	1203	2773	2328	906	1422
	%	6.8	12.3	19.1	43.9	37.0	14.4	22.6
Junior High Schools	No	227	471	698	1987	2504	773	1731
	%	4.4	9.1	13.5	38.2	48.3	14.9	33.4

Seventh and Eighth Grade Population:

Elementary Schools	6304
Junior High Schools	5187

Table XIV

COMPARISON OF PUPILS OF NINTH GRADE
IN SENIOR AND JUNIOR HIGH SCHOOLS, RELATING
TO ACCELERATION AND RETARDATION
SPRING TERM 1929

		BOYS				GIRLS			
		LOW-NINE		HIGH NINE		LOW-NINE		HIGH NINE	
		Sr.H.	Jr.H.	Sr.H.	Jr.H.	Sr.H.	Jr.H.	Sr.H.	Jr.H.
ACCELERATED	More than ½ Year No	53	23	43	23	76	24	63	27
	More than ½ Year %	6.43	3.63	5.30	3.16	9.45	4.51	7.01	4.11
	½ Year No	87	57	96	68	127	55	122	63
	½ Year %	10.50	8.50	11.80	9.70	15.72	10.30	13.6	9.70
	Total No	140	80	139	91	203	79	185	90
	Total %	16.93	12.17	17.10	12.86	25.17	14.81	20.61	13.81
AT GRADE	No	314	248	322	301	333	227	425	327
	%	38.20	36.60	39.60	42.60	41.33	42.70	47.4	50.20
RETARDED	Less than ½ Year No	374	350	354	315	272	225	249	234
	Less than ½ Year %	45.07	51.29	43.30	44.54	33.50	42.43	31.99	35.68
	½ Year No	105	119	125	103	98	88	132	108
	½ Year %	12.40	17.30	15.30	14.60	12.12	16.50	14.5	16.50
	More than ½ Year No	269	33.79	229	212	174	137	157	125
	More than ½ Year %	32.67	231	28.00	29.94	21.39	25.99	17.19	19.18
TOTAL	No	828	678	815	707	808	531	899	650
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table XV

SUMMARY OF COMPARISON BETWEEN
SENIOR AND JUNIOR HIGH SCHOOLS
NINTH GRADE - ACCELERATION AND RETARDATION
SPRING TERM 1929

		ACCELERATED			AT GRADE	RETARDED		
		MORE THAN ½ YEAR	½ YEAR	TOTAL		TOTAL	½ YEAR	MORE THAN ½ YEAR
SENIOR HIGH	No.	235	432	667	1394	1289	460	829
	%	7.0	12.9	19.9	41.6	38.5	13.7	24.8
JUNIOR HIGH	No.	97	243	340	1103	1123	418	705
	%	3.8	9.4	13.2	43.0	43.8	16.3	27.5

Ninth Grade Pupulation -

Senior High Schools	3350
Junior High Schools	2566

CONCLUSION

The outstanding fact presented by the data of the report is the presence of a large number of retarded pupils who, according to current grade standards, are older than they should be for the grades in which they are now to be found.

The two major causes of retardation are late entrance and slow progress resulting in frequent non-promotion. Over the first we exercise only limited control. However, with the increasing popularity of kindergartens, late entrance will eventually be reduced to a minimum. The remedy, then, for retardation is to be found by increased efficiency in dealing with the pupils who are inclined to progress at a slow rate. Upon each principal rests the responsibility of meeting his or her own situation. By means of classification, adaptation of curriculum and materials, teaching methods adapted to the needs of the various groups, opportunity classes, segregation of atypical children, attention to health problems and complete school adjustment to the individual pupil, a gradual improvement in the situation should take place.

Total elimination of retardation is probably impossible. On the other hand, by more effective procedure, an improvement in every school of the city is undoubtedly possible. It is hoped that this report will be of value to all who are concerned in the efficiency of our school system.

SAN FRANCISCO PUBLIC SCHOOLS
OFFICE OF THE SUPERINTENDENT

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E N R O L L M E N T

Bulletin #8

September 11, 1929

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Forecast of San Francisco Public School Enrollment

A knowledge of the probable number of pupils who will be in attendance in the schools a decade or more hence is of prime importance in planning a building program. Both the number of buildings and their location depend in part on the expected enrollment.

A very reliable method for predicting future school population is to examine the trend of growth of school attendance for a number of years in the past and assume that this trend will obtain in the future. In this study two measures of school attendance have been used; average daily attendance, and state enrollment. Figures on both these measures from 1910 to 1928 are used as bases for a forecast of school population.

Table I shows the number of students in average daily attendance for the years 1910 to 1928 by the following grade divisions: kindergarten, grades 1 to 8, grades 9 to 12, and grades 1 to 12.

Table I

Average Daily Attendance, San Francisco Day Schools

1910 to 1928

Year	Average Daily Attendance			
	Kindergarten	Grades 1-8	Grades 9-12	Grades 1-12
1910	29	31967	2416	34383
1911	29	32578*	2707	35285
1912	25	34879	2838	37717
1913	29	37148	2975	40123
1914	147	38336	3198	41534
1915	270	40256*	3392	43648
1916	430	41465*	3852	45317
1917	524	41515	4345	45860
1918	741	41357	4286	45643
1919	866	41802	4244	46046
1920	957	42433	5054	47487
1921	1040	43057	6127	49184
1922	1157	44097	7185	51282
1923	1162	43633	8290	51923
1924	1308	44112	9011	53123
1925	1557	44857	9977	54834
1926	1992	45218	10771	55989
1927	2412	45508	11691	57199
1928	2674	46361	13173	59534

*Estimated

Table II

State Enrollment, San Francisco Day Schools

1910 to 1928

Year	State Enrollment						
	Kinder-garten	Grades 1-8	Grades 9-12	Grades 1-6	Grades 7-9	Grades 10-12	Total Enrollment Gr. 1 -12
1910	63	39610	3545	34329	7182	1644	43155
1911	63	40190	3789	34294	7272	2413	43979
1912	70	41974	3338	36502	6872	1938	45312
1913	66	43374	3460	37461	7521	1852	46834
1914	305	46538	4929	40048	8346	3071	51467
1915	575	49544	3895	42331	8993	2115	53439
1916	897	50558	4664	42300*	10725*	2177	55202
1917	1155	49746	6002	41967	10816	2965	55748
1918	1708	50616	4886	42452	10108	2942	55502
1919	2075	52262	5104	43668	10931	2767	57366
1920	2186	52791	5713	43615	11646	3243	58504
1921	2507	53480	6944	42481	14075	3868	60424
1922	2650	53837	8464	42805	15050	4446	62301
1923	2634	53446	9473	42142	15605	5172	62919
1924	3202	54330	10456	42842	15969	5975	64786
1925	3480	54473	12874	42946	17833	6568	67347
1926	4642	54366	13392	42331	17992	7435	67758
1927	5422	55146	13206	42714	17941	7697	68352
1928	5531	54261	14483	41682	18556	8506	68744

*Estimated

Table II shows the state enrollment of the San Francisco Public Schools by grade divisions for the years 1910 to 1928. These figures represent regular day school classes only. The enrollment figures are given for the kindergarten, grades 1 to 8, grades 9 to 12, grades 7 to 9, grades 10 to 12, and grades 1 to 12.

The data of Tables I and II are shown graphically in figures 1 and 2. By this method the growth of the San Francisco schools is very clearly revealed.

A few significant facts about this growth should be pointed out. As is shown in figures 1 and 2, the total enrollment and total average daily attendance has increased gradually during the eighteen years, the rate of increase being slightly less during the latter part of the period.

The increase in average daily attendance, as shown in figurel in grades 1 to 8 has been much less during the last half of the period than during the first part. The opposite is true of grades 9 to 12, the increase in average daily attendance in grades 9 to 12 having been decidedly greater during the latter half of the period.

Figure 2 tells the same story and in a more detailed manner. While there has been an increase in enrollment in grades 1-8, over the last thirteen years, practically all of this increase has been in grades 7-8. The enrollment in grades 1 to 6, has remained nearly constant. The increase in grades 7-9 has been very rapid but less rapid during the last five years than during the first part of the period.

The increase in grades 10-12 has been very rapid since the year 1919.

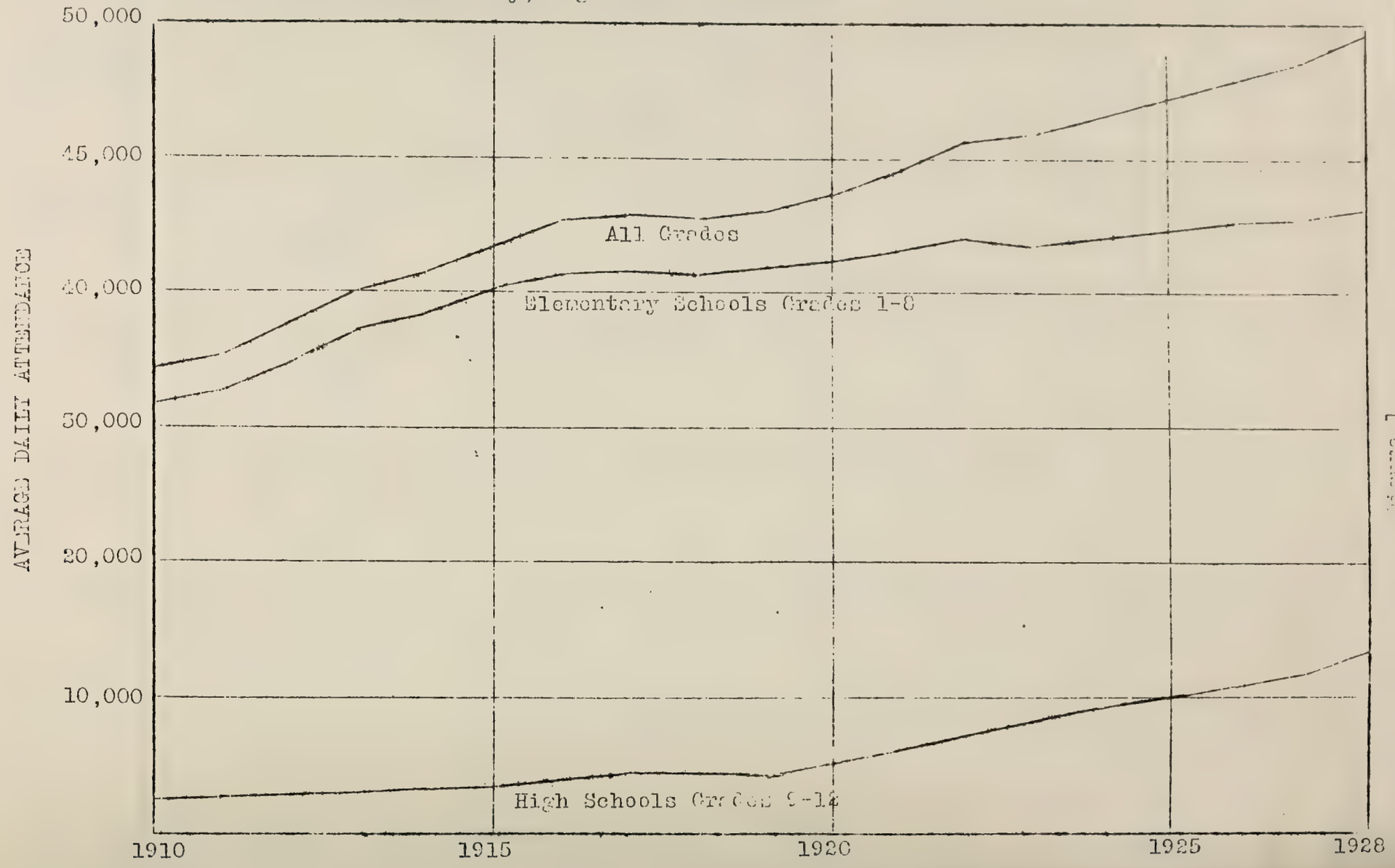
The much more rapid growth in grades 9-12 and in 10-12 may be attributed to three factors: (1) the growth of population in San Francisco; (2) the increased holding power of these grades, especially grades 10-12; and (3) the reduction of retardation in grades 1-8, and more particularly in grades 1-6.

The fact that the enrollment in grades 1-6 has not increased in 10 years even though the population of San Francisco has increased, is probably due entirely to the decrease of retardation in these grades.

The above facts make it impossible to predict growth of school population by grades divisions separately; it is necessary to use the figures for grades 1-12 and predict the total school population and then estimate the percent of the total school population that will be enrolled in the several grade divisions.

A simple method of projecting the trend of past growth into future years is to draw, freehand, the curves of best fit to the

AVERAGE DAILY ATTENDANCE
SAN FRANCISCO PUBLIC SCHOOLS 1910 - 1928
Elementary, High School and Total



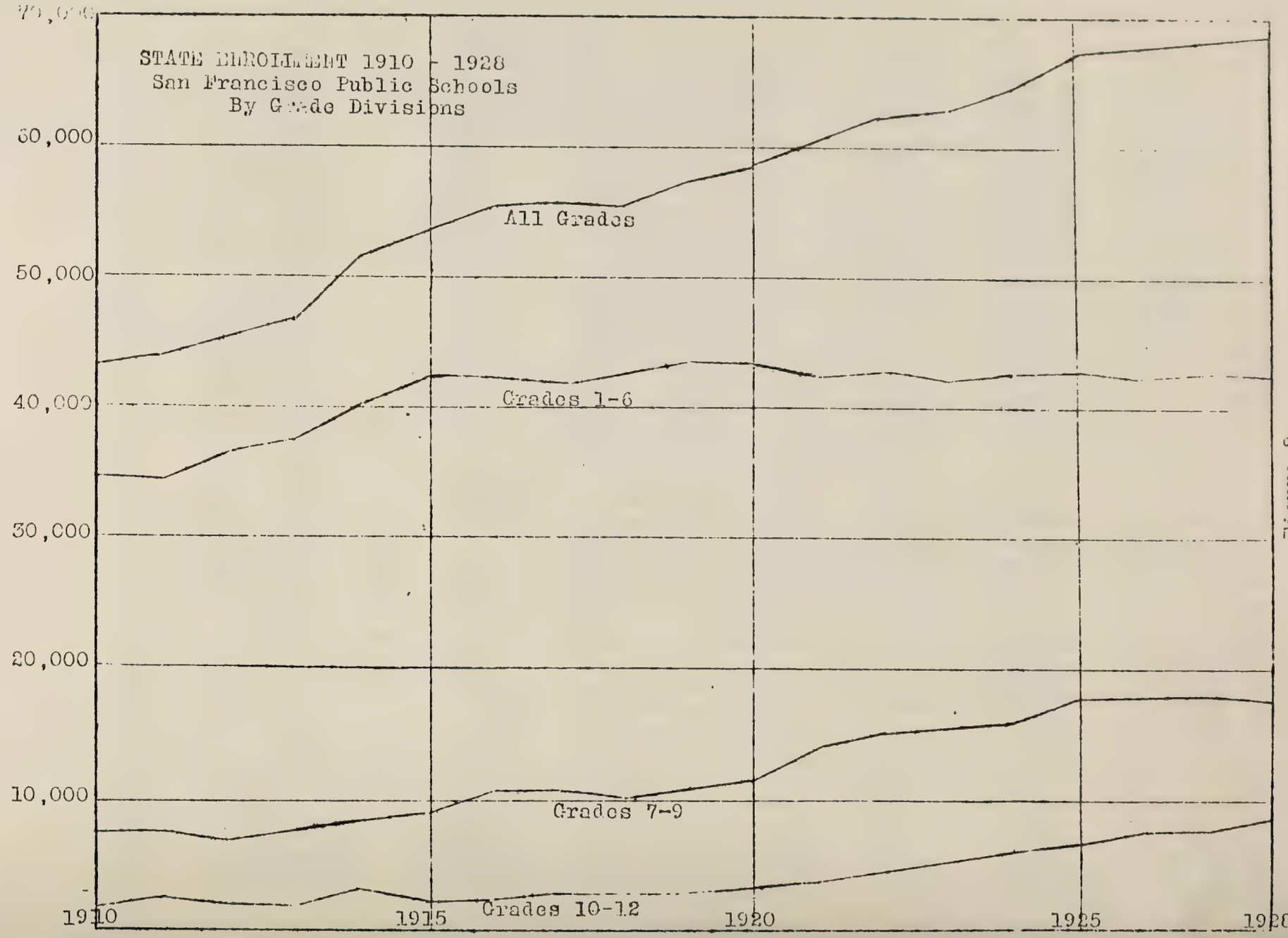

STATE ENROLLMENT 1910 - 1928
San Francisco Public Schools
By Grade Divisions
60,000
50,000
40,000
30,000
20,000
10,000
All Grades
Grades 1-6
Grades 7-9
Grades 10-12
1910
1915
1920
1925
1928

Figure 2

broken line curves in figures 1 and 2 and to continue these curves any number of years further. Such a method should give a fairly reliable prediction.

A more exact method and one which should yield a more reliable forecast is to determine mathematically the equation of the curves of best fit to the broken line curves, and by means of these equations calculate the average daily attendance or state enrollment for any future year and thus project the curve of best fit any number of years into the future. The present study makes use of this method. It was found that a logarithmic curve of the form

$$Y = a + bX + c \log X$$

where X refers to time and Y to enrollment or attendance fitted the data quite well. The constants a, b, and c, were calculated and the curve of best fit to the broken line curve for average daily attendance, and the curve of best fit to the broken line curve for state enrollment, were thus obtained.

This method assumes that the school population will increase in the future in the same way it has in the past. Due to the fact that the increased holding power of the high school has entered as an important factor in the growth of school population for several years past, a forecast based on past trends is apt to be slightly high for it is unlikely that the high school can continue to increase its holding power in the future to the same degree it has in the past. While certain of the figures and tables show a forecast of school population as far hence as 1950, it would seem better to emphasize that part of the forecast up through the year 1940. During this period it is more likely that the school population will increase as it has in the past.

Figure 3 shows the actual average daily attendance in San Francisco day schools in grades 1-12 for the years 1910 to 1928 and the curve of best fit projected to the year 1950. The predicted average daily attendance for years 1929 to 1950 is shown in Table III.

Figure 4 shows the actual state enrollment in San Francisco day schools in grades 1-12 for the years 1910 to 1928 and the curve of best fit projected to the year 1950. It will be noticed that the rate of increase is very slowly decreasing year by year. Table IV shows the predicted state enrollment for years 1929 to 1950.

The actual number of students enrolled in the schools at any one time is somewhat less than the state enrollment and somewhat more than the average daily attendance. Probably the best measure of actual enrollment is what is known as "end of the month enrollment", or the number of students actually enrolled in the schools at the end of a school month. This number varies from month to month. For purposes of planning a building program it is best to

AVERAGE DAILY ATTENDANCE 1910 - 1928
SAN FRANCISCO PUBLIC SCHOOLS
With forecast to 1850

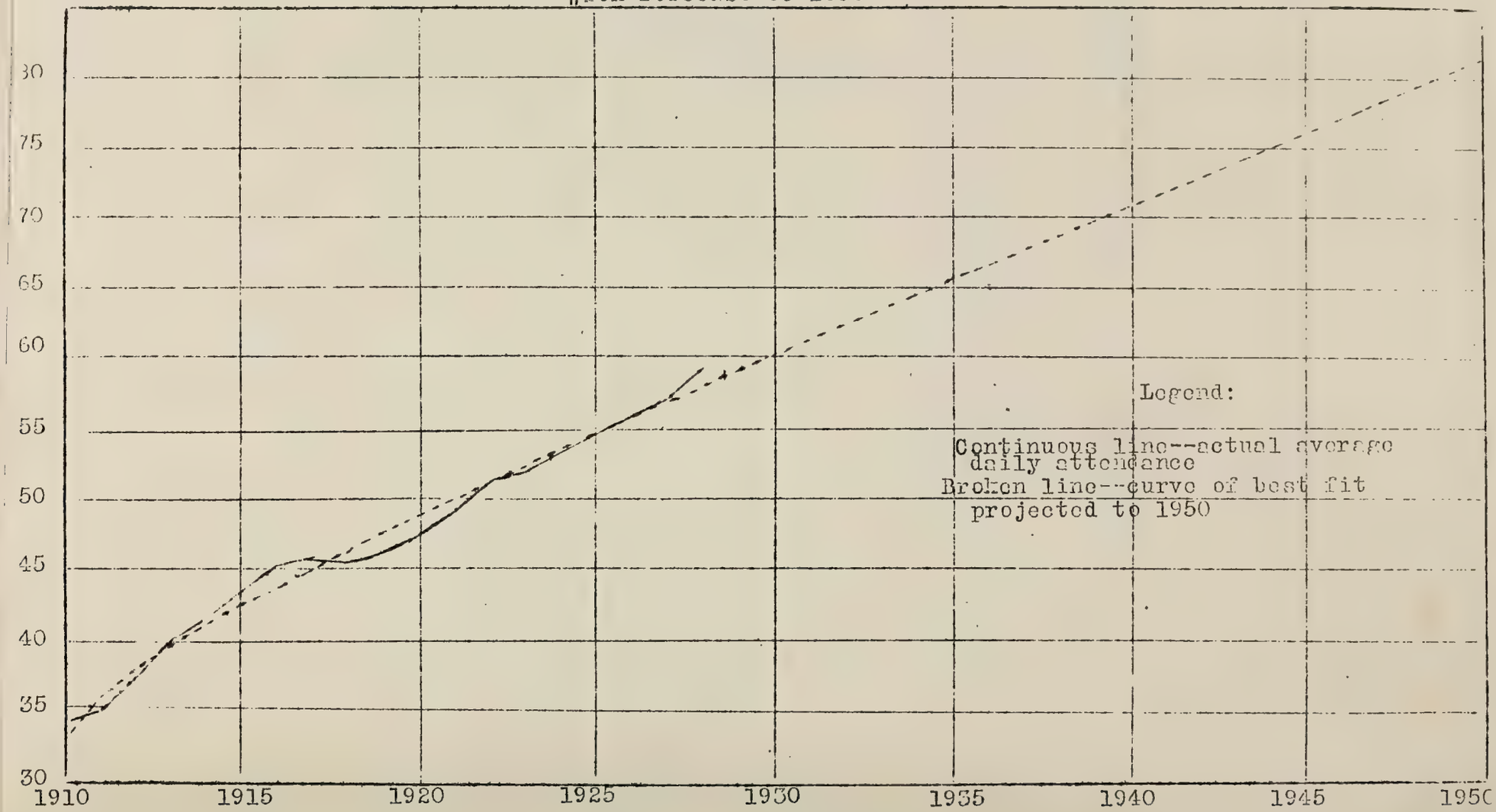


Figure 3

STATE ENROLLMENT 1910-1928
SAN FRANCISCO PUBLIC SCHOOLS
With Forecast to 1950

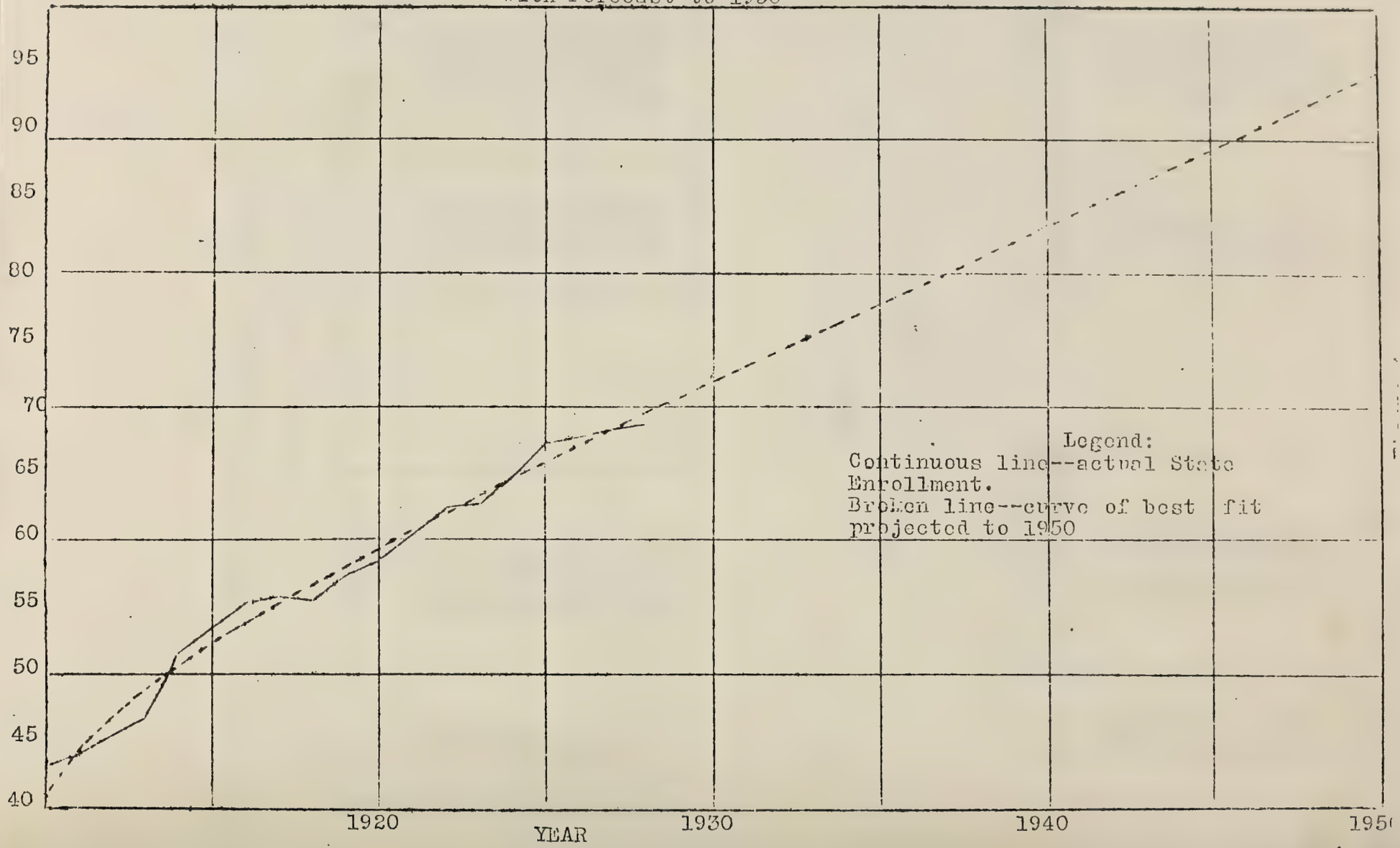


TABLE III

PREDICTED AVERAGE DAILY ATTENDANCE

1929 to 1950

Year	Predicted A.D.A.		Year	Predicted A.D.A.
1929	59,194		1940	70,979
1930	60,285		1941	72,031
1931	61,374		1942	73,080
1932	62,447		1943	74,128
1933	63,534		1944	75,173
1934	64,608		1945	76,216
1935	65,678		1946	77,258
1936	66,744		1947	78,298
1937	67,807		1948	79,336
1938	68,867		1949	80,372
1939	69,923		1950	81,408

TABLE IV

PREDICTED STATE ENROLLMENT

1929 to 1950

Year	Predicted State Enrollment		Year	Predicted State Enrollment
1929	70,776		1940	83,683
1930	71,978		1941	84,830
1931	73,173		1942	85,974
1932	74,362		1943	87,115
1933	75,544		1944	88,253
1934	76,721		1945	89,388
1935	77,892		1946	90,521
1936	79,059		1947	91,651
1937	80,221		1948	92,780
1938	81,379		1949	93,906
1939	82,533		1950	95,030

make use of the figures for the month at which the enrollment is the largest. In order to forecast actual school enrollment from the prediction of average daily attendance and state enrollment, the ratios of the end of the month enrollment for the peak month to the average daily attendance and of the state enrollment to the end of the month enrollment for the peak month were obtained for the past three years. In the case of the ratio of end of month enrollment to average daily attendance the figures for the first part of the year 1928-1929 were also used. These ratios are shown in Table V. The averages of both series of ratios were used for predicting school enrollment. The predicted average daily attendance was multiplied by the average ratio of end of month enrollment to average daily attendance, and the predicted state enrollment was multiplied by the average ratio of end of month enrollment to state enrollment. The averages of the two enrollments figures for each year were taken as the actual enrollments for those years. Table VI shows the predicted average daily attendance, predicted state enrollment, the predicted true enrollments obtained by applying the above mentioned ratios, and the average of these two predicted true enrollments or the forecast of school population for the years 1930 to 1940.

TABLE V

Year	End of Peak Month Enrollment	Average Daily Attendance	State Enrollment	Ratio of End of Peak Month Enrollment to A.D.A.	Ratio of End of Peak Month Enrollment to State Enrollment
1925-6	60924	55989	67758	1.0881	.8991
1926-7	63347	57199	68352	1.1074	.9267
1927-8	65186	59534	68744	1.0949	.9482
1928-9		60910		1.0847	
			Average Ratio	1.0938	.9243

TABLE VI

Year	Predicted A.D.A	Predicted A.D.A. Multiplied by 1.0938	Predicted State Enrollment	Predicted State Enrollment multiplied by .9243	Forecast of School Population
1930	60,285	65,940	71,978	66,530	66,235
1931	61,374	67,130	73,173	67,634	67,382
1932	62,447	68,305	74,362	68,733	68,519
1933	63,534	69,493	75,544	69,825	69,659
1934	64,608	70,668	76,721	70,913	70,786
1935	65,678	71,839	77,892	71,995	71,917
1936	66,744	73,005	79,059	73,074	73,040
1937	67,807	74,167	80,221	74,148	74,158
1938	68,867	75,327	81,379	75,218	75,278
1939	69,924	76,483	82,533	76,285	76,384
1940	70,979	77,637	83,682	77,347	77,492

It next becomes necessary to calculate the number of students that will probably be enrolled in each of the several school divisions. Such a procedure must be based at least in part on an arbitrary basis, but the percentage of students in the several divisions in past years, the trends of growth of these divisions, and the percentage of students in the same division in other localities may aid in arriving at a solution.

Table VII shows the percentage of students enrolled in the grade divisions from 1910 to 1925 by five year periods and for 1928, as shown by figures for state enrollment.

TABLE VII

Year	Percent of Students in Grades 1-6	Percent of Students in Grades 7-9	Percent of Students in Grades 10-12
1910	79.5	16.6	3.8
1915	79.2	16.8	4.0
1920	74.5	19.9	5.5
1925	63.8	26.4	9.8
1928	60.6	27.0	12.4

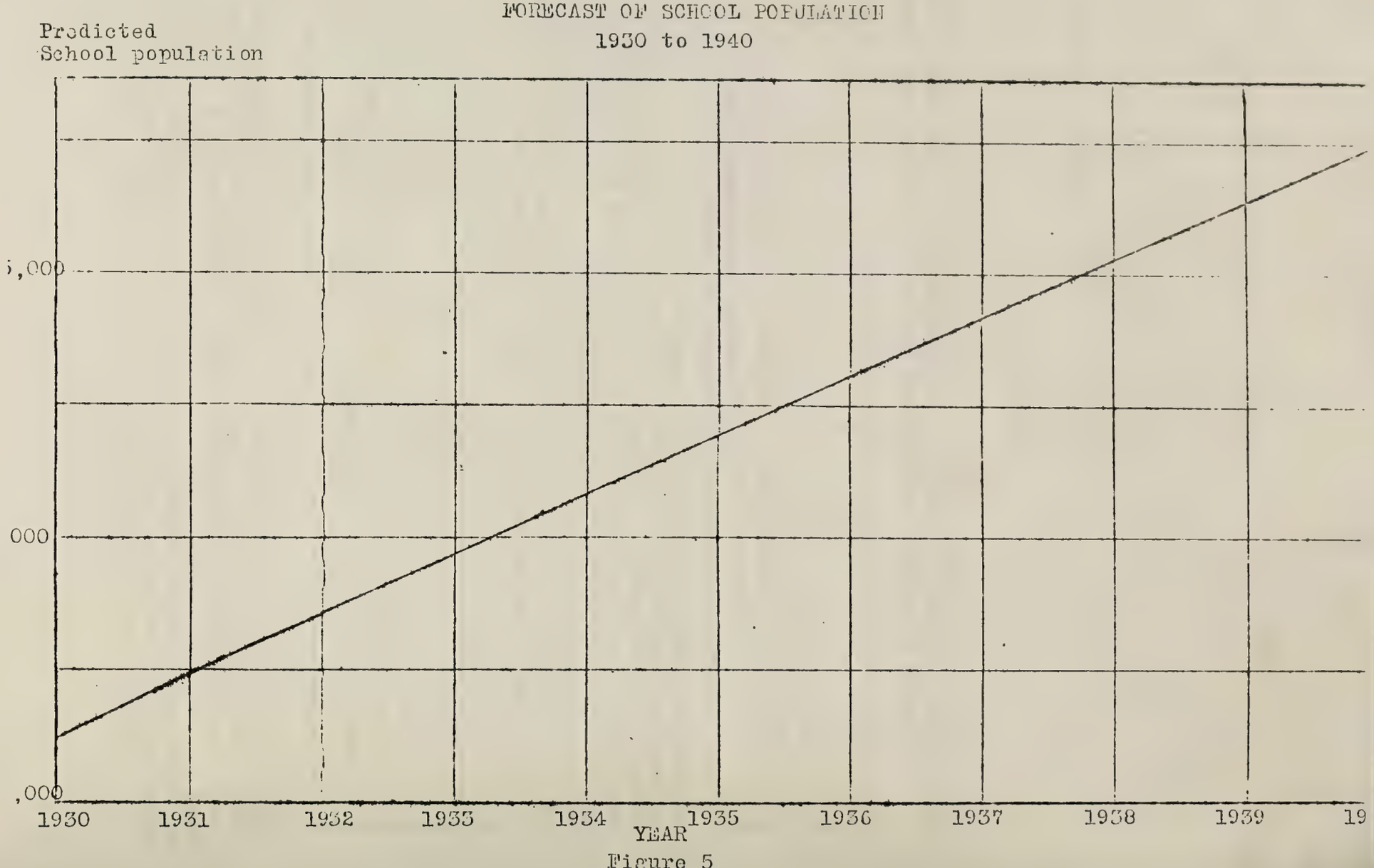

FORECAST OF SCHOOL POPULATION
1930 to 1940
Predicted
School population
,000
000
,000
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
YEAR

Figure 5

The trend is clearly toward an increased percentage of the enrollment in the senior high school and a decreased percentage of enrollment in the elementary schools. The percentage of enrollment in the junior high school has remained fairly constant since 1925. For purposes of prediction actual enrollment is a better basis than state enrollment. The end of the 7th month enrollment 1928-1929 by grade divisions and the percentage in each division was as follows:

Grade Division	Enrollment	Per Cent of Total Enrollment
1-6	38,542	58.51
7-9	17,221	26.14
10-12	10,105	15.34
Total	65,868	99.99

It would be impossible to predict with certainty the per cent of students who will be in the several grade divisions several years hence. It seems reasonable to suppose however that the percent of students in the elementary grades will decrease and that the per cent of students in the senior high school will increase. For purposes of forecasting the school enrollment by divisions the percent of students in the several divisions has been assumed as shown in the following table.

TABLE VIII

Year	Per cent of Enrollment		
	Grades 1-6	Grades 7-9	Grades 11-12
1930	58	26	16
1935	57	26	17
1940	56	26	18

Using the above percentages and the predicted total school population as shown in Table VI the membership in the several grade divisions for the years 1930, 1935, and 1940 would be as follows:

TABLE IX

Year	Forecast of Enrollment			
	Grades 1-6	Grades 7-9	Grades 10-12	Total
1930	38,416	17,221	10,598	66,235
1935	40,993	18,698	12,226	71,917
1940	43,395	20,148	13,949	77,492

SAN FRANCISCO PUBLIC SCHOOLS
OFFICE OF THE SUPERINTENDENT

DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

[San Francisco (City & County) Board of Education.
Bureau of Research, Adult Education & Evening Schools]

S P E C I A L S U R V E Y S

Reading Program - Grades 4, 5, and 6 - Fall Term 1928

Survey of Mental Ability in the High 6 Grade

Survey of the Commodore Stockton School
(Chinese Pupils in Grades 1 to 6)

Retardation in the Low 1 Grade

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October 21, 1929

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READING PROGRAM

Fall Term 1928

At the beginning of the fall term 1928 all pupils of grades 4, 5, and 6 were given a Thorndike-McCall reading test which served as a basis for the organization of homogeneous reading groups through each school. Deputy Superintendent Miss Bertha E. Roberts, cooperating with the Department of Educational Research and Service, instructed the teachers in the administration of the tests and the organization of such groups.

The homogeniety of the groups depended to a great extent upon the size of schools. A school having one L4 and one H4 grade could have four levels of ability within their fourth grades, each teacher having two groups of approximately 20 pupils each, who were most alike in ability and age. A very small school might have only two groups while the larger schools might have six or eight levels of ability within a grade. In spite of the variability of size of school it was usually possible to keep the reading ability range and the age range within a two year limit and under ordinary conditions, a year's range prevailed.

After the organization of the reading groups and final adjustments made where teacher's judgment was a factor, a Stanford Achievement Reading Examination was administered. These groups were supervised by Miss Roberts and her assistants over a four months' period in which adaptability of texts, materials, and methods were chief concerns. At the end of four months a second Stanford test was given and progress recorded.

In several cases where there was a very narrow range of abilities and ages, the teachers combined their two classes in the final report, hence the number of classes does not represent the actual number of ability groups participating but the results recorded show the progress of each group as reported by the teacher.

The following distributions, I, II, and III, show the number of groups at each ability level and the progress they made in four months. The figures at the left indicate the interval within which the median of the group fell at the beginning of the period. At the top is shown the gain in months made by each of the groups.

The distributions below include 622 classes and 12,440 pupils.

I

Median Ability	AVERAGE GAIN OF GROUPS IN MONTHS - Grade 4																			Total
	-	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Below 8-0	1					4	2	3	1	1	1	2		1		1				1	18
8-0 8-5	1	1	1	6	3	1	3	2	5	2	1	3	1	2					1		33
8-6 8-11		2	2		1	2	1	4	2		5									1	20
9-0 9-5		3	3		4	6	8	5	5	3	2		1					1			41
9-6 9-11	1		1	3	8	3	6	7	3	1	2		1								36
10-0 10-5	2	1	1	3	2	7	3		1	2											22
10-6 10-11	2		2	2	2	2	7	5		1		2							1		26
11-0 11-5					1	1	3	1	1	1		1	1	1							10
11-6 11-11	1		1						1	1		1	1								6
12-0 12-5					1	1	1										1				4
TOTAL	8	7	11	14	22	27	34	27	19	12	11	9	5	3	-	1	1	1	2	2	216

II

Median Ability	AVERAGE GAIN OF GROUPS IN MONTHS - Grade 5																				Total
	-	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
8-6 8-11	2			1		2	1								1						7
9-0 9-5			2	4	2	1	1	2			1				1						14
9-6 9-11	1	3	2	3	5	2		1	3				1					1			22
10-0 10-5		5	1	10	7	5	6	3	3	1											41
10-6 10-11	3	1	6	2	4	2	5	5	2		2	1	1								34
11-0 11-5		1	3	3	3	4	3	1		1	2										21
11-6 11-11			4	3	4	3	3	1		2			1								21
12-0 12-5		1		1	4	3	3	3	1	3		1				1					21
12-6 12-11		4	1	1		1	4	1	6	1	1		2				1				23
13-0 13-5		1	1				1	1	2												6
13-6 13-11				1			1				2										4
14-0 14-5					1	1															2
TOTAL	6	16	20	29	30	24	28	18	17	8	8	2	5	-	2	1	1	1	-	-	216

Median Ability	AVERAGE GAIN OF GROUPS IN MONTHS - Grade 6																			Total
	-	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
9-0 9-5			3			1															4
9-6 9-11		1	1		1		2														5
10-0 10-5	1	2	5	1	3	1	3	1		1		1									19
10-6 10-11				6	2	2	3	2	3	3							1	1			20
11-0 11-5	1	1	2	4	2	3	5	3			1							1			23
11-6 11-11	3		5	1	2	1	2	2	1	1				1							19
12-0 12-5	2	1	1	4		3	3	1	2	3	1			1		1					23
12-6 12-11		1	2	2	4	2	8		4	1		1			1	1					27
13-0 13-5		1	1	2			2	3	3	1	2	1	2	1							19
13-6 13-11		1		2	3	1	1		2		4					1					15
14-0 14-5		1		2	1	3			1		4										12
14-6 14-11	1	1					1					1									4
TOTAL	8	10	20	24	18	17	30	12	16	7	12	4	2	3	1	3	1	2	-	-	190

In looking at these distributions, perhaps the most striking thing is the variability of the groups. The groups in the fourth grade spread in median reading ability from less than eight years to greater than twelve years. As stated, however, the range of abilities within these groups rarely exceeds two years.

The progress of these groups also varied widely. However, it may be said that the slight losses as well as the spectacular gains might have been produced by exceptionally unfavorable conditions at the time of the first or second test. On the whole the results were consistent and gratifying.

In a program of this kind it is well to keep in mind that under normal conditions pupils of average abilities make normal gains in a given length of time. By virtue of superior methods, materials, or learning conditions, the gains may be increased greatly. On the other hand, a spectacular increase may be due to the fact that the class was not working up to capacity at the beginning of the program.

Pupils of low capacity make slower progress. For pupils in the lowest ability groups to make normal progress requires superior learning conditions. However, referring to the fourth grade distribution, it will be seen that with one exception, all of the classes of the lowest ability group (below 8 years) made more than normal progress, the median of the group being 7 months.

The following tabulation shows the median, Q_1, and Q_3 of the average initial reading ages of the several reading groups by grades at the beginning of the fall term, 1928.

Quartile and Median Reading Ages
Grades 4, 5, and 6

	Grade 4		Grade 5		Grade 6	
	Yrs.	Mos.	Yrs.	Mos.	Yrs.	Mos.
Q_1	8	6.4	10	1.1	10	10.3
Median	9	4.9	10	9.7	12	.6
Q_3	10	3.4	12	,1	13	,8

According to the preceding table, the fourth grade groups show a median initial ability of 9 years 5 months which is the age to be expected of normal fourth grade pupils, i.e., this corresponds to the chronological age of pupils of the fourth grade at that period. One-fourth of these groups have median reading abilities below 8 years 6 months while one-fourth exceed a reading age of 10 years 3 months.

The fifth and sixth grades show median ages somewhat above the expected ability. This is not surprising as these grades have been working under improved conditions, having been grouped homogeneously for a year or more.

The tabulation below shows the median, Q_1, and Q_3 of the group average gains made by grades 4, 5, and 6 respectively.

Quartile and Median Group Gains in Months
Grades 4, 5, and 6

	Grade 4	Grade 5	Grade 6
Q_1	3.1	1.9	1.9
Median	5.1	3.8	4.4
Q_3	7.1	6.0	6.7

The above shows that in the fourth grade the groups made a median gain of 5.1 months, i.e., half the classes exceeded that point and half failed to reach it. One quarter made gains of 7.1 months or better while one quarter failed to reach 3.1 months. Considering the four months' learning period, the fact that half the groups made average gains ranging from 3.1 months to 7.1 months speaks well for the type of organization and training.

As will be noticed the gains made in grades 5 and 6 are not as spectacular as those made in grade 4. Referring to the table showing initial reading ages, this is undoubtedly due to the fact that the majority of these groups were reading above average at the beginning of the program.

While this program was city wide and no control groups existed by which contrasts might be drawn, the following statements may be made in conclusion:

1. That pupils who have been reading in fairly homogeneous groups based on former classifications showed initial abilities slightly above average at the beginning of this project.

2. That the tendency of groups of normal ability and below was to make higher gains than their ability would justify under normal conditions.

3. That the median of the average group gains in two grades exceeded normal and in one grade was but very slightly below normal.

4. That the technique involved in the classification of groups and their subsequent training produced gains above normal.

SURVEY OF HIGH SIXTH CLASSES

Spring Term - 1929

At the close of the spring term, 1929, all pupils of the high sixth grade were given the National Intelligence Test. The results were utilized in:

1. Supplementing teachers' judgment in regard to promotions.

2. Determining the placement of pupils in irregular cases.

3. Furnishing a basis for classification in departmental and junior high school work.

A summary of these records is illuminating in that it shows the wide variability of high sixth pupils and emphasizes the need for a flexible and varied educational procedure. The charts which follow call attention graphically to these facts.

Considering first the chronological age of the pupils (Chart I), we find that the pupils in this half-grade range from 9 years 6 months to over 16 years 6 months. The median age of the group is 12 years 1 month while 25 per cent are younger than 11 years 7 months and 25 per cent exceed a chronological age of 12 years 11 months. To say that this approximates local and state age-grade standards does not eliminate nor justify ignoring the problems that such a wide range presents. Regardless of the mental ability of these pupils, the interest range alone calls for a highly differentiated program.

The results of the intelligence test given to the high 6 pupils show that San Francisco meets the norm for high 6 pupils in general, (Chart II). The median mental age for the 2948 pupils tested is 12 years 6 months while the middle 50 per cent ranges from 11 years 6 months to 13 years 6 months. The fact that over 700 high 6 pupils exceed a mental age of 13 years 6 months and the same number fail to reach a mental age of 11 years 6 months, is not surprising. However, this is rarely considered when courses of study are organized, in spite of the fact that it should be a fundamental consideration.

In order that we may better comprehend the distribution of mental abilities at the various steps of the chronological age scale, Table I has been prepared. Chart III which follows shows the same facts graphically. Pupils who were younger than 10 years 6 months or older than 15 years are not included in the tabulation below because of the limited number.

TABLE I

Chronological Age Group	Mental Ages			No. of Pupils
	Q_1	Median	Q_3	
10-6 to 10-11	12-9	13-7	15-6	155
11-0 " 11-5	12-2	13-4	15-1	487
11-6 " 11-11	12-0	12-10	13-10	761
12-0 " 12-5	11-6	12-3	13-3	503
12-6 " 12-11	11-3	12-1	13-0	365
13-0 " 13-5	11-0	11-9	12-9	254
13-6 " 13-11	10-8	11-6	12-4	159
14-0 " 14-5	10-7	11-5	12-2	88
14-6 " 14-11	10-4	11-2	12-2	67

A fallacy common to teachers is to underestimate the ability of young pupils. Chart III emphasizes the fact that the youngest pupils in the high 6 grade surpass all other pupils in mental ability while the oldest pupils are inferior in mental ability to any other age group. As the other age groups fall along the mental age scale it will be noticed as the group advances in chronological age it recedes in mental age.

CHART I

CHRONOLOGICAL AGES

2948 High 6 Pupils
April, 1929

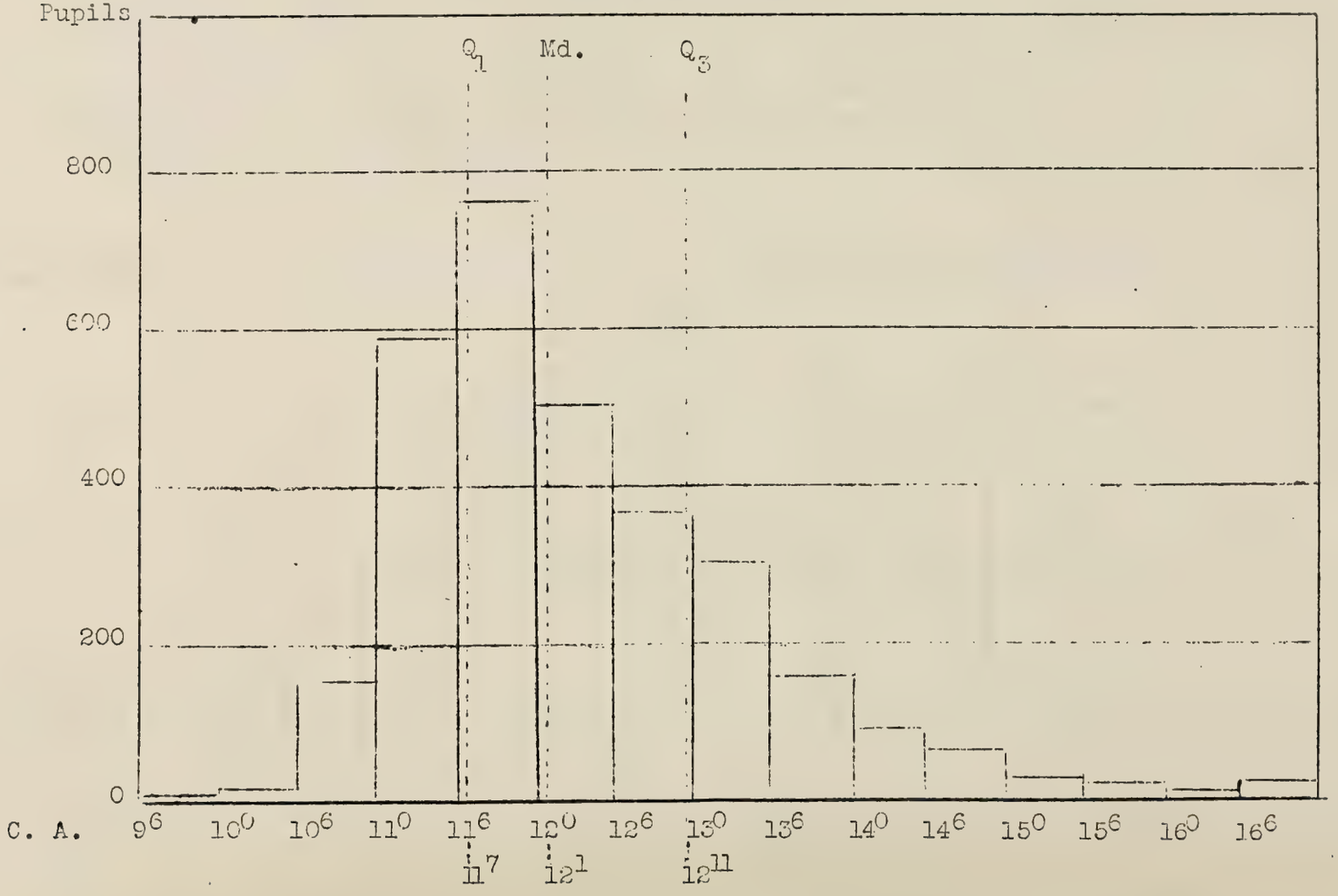


CHART II

NATIONAL INTELLIGENCE TEST RESULTS

2948 High 6 Pupils

April, 1929

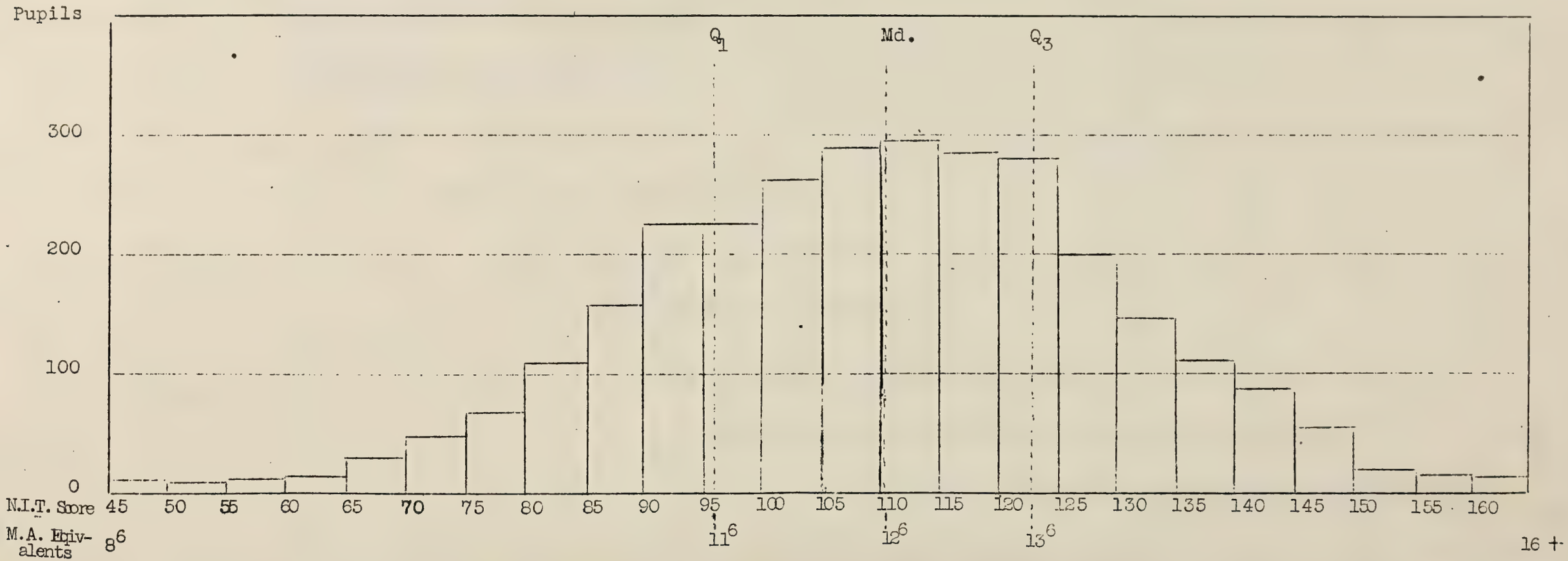
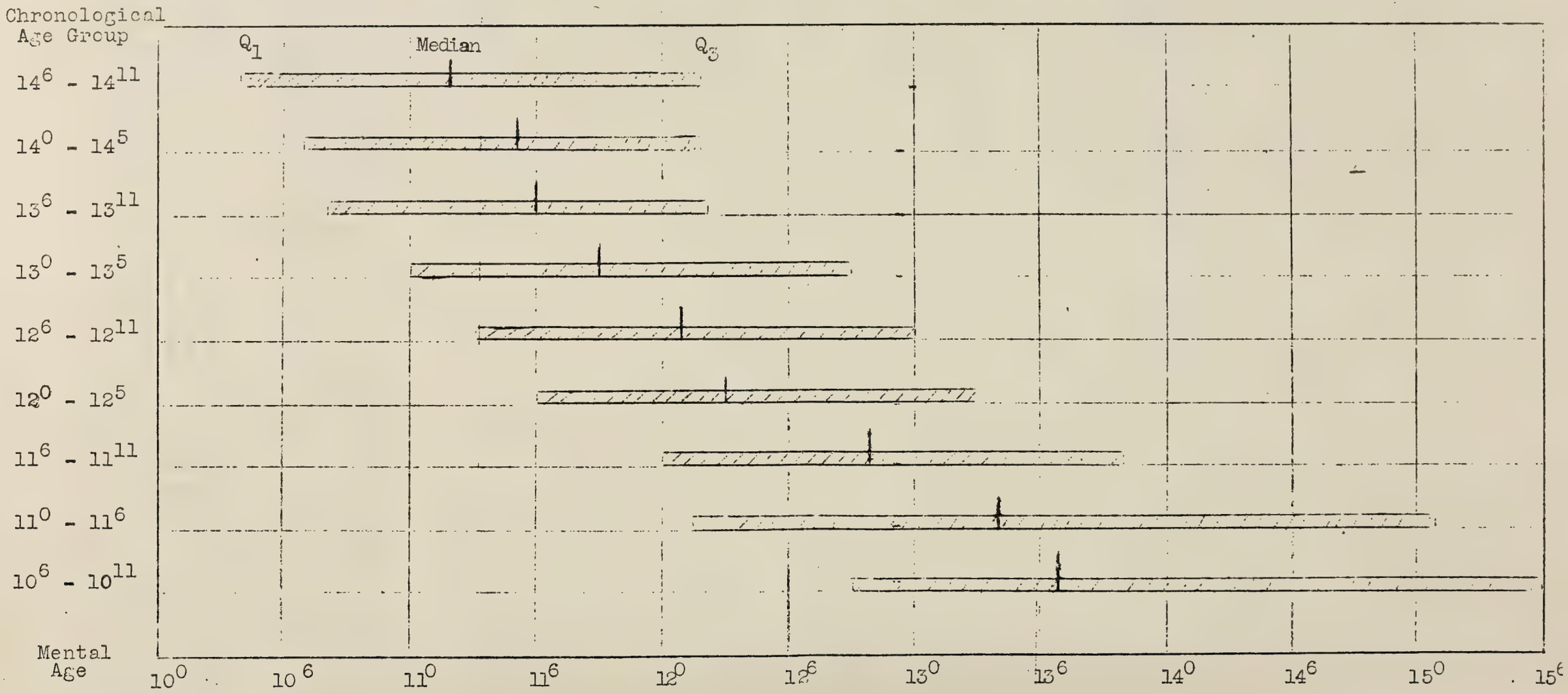


CHART III

MENTAL ABILITY BY AGE GROUPS - HIGH 6 GRADE

Shaded bars indicate range of middle 50% in mental ability

The vertical line indicates the median



What is true of the high 6 grade is true to a greater or less degree in every other grade. It is neither possible nor advisable to attempt to eliminate overageness but it is within our ability to modify and adapt the work to meet the various levels. It must be remembered that only under most unusual conditions would a single school have to provide facilities for the complete range of abilities.

The intelligence test record of high 6 pupils should be of unlimited value in grouping pupils in junior high school. The large enrollment of the junior high school permits several ability groups for each class. The more progressive schools have been making use of these records in placement of pupils and selection of their subjects. It is only through such a program that we can serve a group that varies so widely in ability.

COMMODORE STOCKTON SURVEY

The Commodore Stockton School is situated in the heart of San Francisco's Chinatown and serves practically all of the Chinese pupils of San Francisco who are in the kindergarten and grades 1 to 6 inclusive. Over 1100 boys and girls attend this school. This is the largest Chinese population in any school outside of China, and the problems which arise in such a school are varied and intricate. Feeling that a wider knowledge of these pupils would aid in a solution of the problems, a survey was made. A few of the facts which have a direct or indirect bearing upon the educational treatment follow. The slight differences in class enrollments in the various tables is due to the fact that the survey covered several weeks in which the attendance varied.

TABLE I

Birthplace of Pupils
(1099 pupils in grades 1 to 6 inclusive)

Birthplace	Grades 1	2	3	4	5	6	Total	Per Cent
San Francisco	136	249	119	130	110	94	738	67.1
Elsewhere in California	32	25	23	28	14	17	139	12.7
Elsewhere in United States	9	6	9	5	2	10	41	3.8
China	17	14	30	28	37	40	166	15.1
Other Countries	5	3		0	0	0	8	.7
Not Stated	3	2	2	0	0	0	7	.6
TOTALS	202	199	183	191	163	161	1099	100.0

The above table shows that all but 15 per cent of the Commodore Stockton pupils are natives of this country, 80 per cent of them having been born in California.

Due to the difficulty of obtaining accurate information from Chinese speaking parents, the birthplaces given below are tabulated in terms of the number of pupils having parents born in each country. It must be kept in mind that the following figures represent the parentage of pupils and not the number of parents.

TABLE II

Father's Birthplace Reported by Number of Pupils

Birthplace of Father	Pupils in Grades: 1	2	3	4	5	6	Total	Per Cent
San Francisco	39	33	41	56	44	40	253	23.21
Elsewhere in California	8	18	5	5	2	6	44	4.04
Elsewhere in United States	37	23	24	18	20	28	150	13.76
China	116	100	105	101	95	81	598	54.86
Other Countries	1	8	3	1	1	5	19	1.74
Not Stated	7	6	3	6	3	1	26	2.39
TOTALS	208	188	181	187	165	161	1090	100.00

TABLE III

Mother's Birthplace Reported by Numbers of Pupils

Birthplace of Mother	Pupils in Grades						Total	Per Cent
	1	2	3	4	5	6		
San Francisco	36	35	34	45	30	25	205	18.7
Elsewhere in California	7	11	9	13	5	4	50	4.6
Elsewhere in United States	22	13	13	4	3	11	66	6.0
China	127	127	127	125	125	119	750	68.6
Other Countries	2	7	0	0	1	0	10	.9
Not Stated	2	5	3	2	0	1	13	1.2
TOTALS	197	198	186	189	164	160	1094	100.0

Tables II and III show that the fathers of 54.8 per cent and the mothers of 68.6 per cent of the pupils of the Commodore Stockton School were born in China. This would to a marked degree account for the prevalence of Chinese speech among the pupils.

A further investigation regarding the abilities of the pupils is tabulated below.

TABLE IV

Linguistic Ability of Pupils in Commodore Stockton School - Grades 4, 5, and 6

Ability	Grades			Total	Per Cent
	4	5	6		
Speak Chinese	190	168	162	520	100.0
Read Chinese	189	164	155	508	97.7
Write Chinese	177	160	150	487	93.7
Speak English	187	165	161	514	98.8
Read English	185	166	160	511	98.2
Write English	185	166	160	511	98.2
TOTALS	190	168	162	520	

It must be remembered that the English abilities tabulated in Table IV are relative and in keeping with age and grade standards for the Commodore Stockton School. Chinese parents are desirous of having their children familiar with their own language, hence a large per cent are in attendance at so-called Chinese Language Schools. Table V which follows shows the number and per cent of pupils in each grade attending schools where the Chinese language is taught. These schools are conducted after public school hours.

TABLE V

Pupils Attending Chinese Language Schools

	Grades						Total
	1	2	3	4	5	6	
Attending Chinese School	121	153	172	171	141	124	882
Total Number in Grade	203	197	186	190	168	162	1111
Per cent attending Chinese School	58.1	77.6	92.4	90.0	83.9	76.5	79.3

to 6 only. The kindergarten of the Commodore Stockton School has for one of its objectives acquainting children with the English language so that they will be able to comprehend sufficiently for first grade instruction. This in a measure will account for the overageness prevalent in this school as they are often detained here for more than the normal time.

Table VI compares the per cent of acceleration and retardation of the Commodore Stockton School with San Francisco averages.

TABLE VI

Per Cent at Grade, Accelerated and Retarded

	Per Cent Accelerated	Per Cent at Grade	Per Cent Retarded	Total
Commodore Stockton	4.4	38.8	56.8	100%
San Francisco Total	11.1	58.5	30.4	100%

Table VII which follows gives the exact number at age, accelerated and retarded in each half grade. This shows not only the amount but the degree of acceleration and retardation.

TABLE VII

Record of Acceleration and Retardation
Based on Age and Grade - March 1, 1929

AGE	GRADES																								TOTAL
	FIRST				SECOND				THIRD				FOURTH				FIFTH				SIXTH				
	A		B		A		B		A		B		A		B		A		B		A		B		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
5																									
5½	1																								1
6	17	14	5	3																					39
6½	16	12	26	20	2	1																			77
7	3	5	22	14	13	13	1	2																	73
7½	5	2	11	4	11	8	16	13	1	1	2			1											75
8	2		6	3	12	7	25	13	6	7	6	7													94
8½		1	5	4	1	1	8	12	12	6	12	8		1		1									72
9	1	1	1	1	3	2	4	8	8	6	7	8	3	6	2	2									63
9½	1	1		2	1	1	2	4	6	7	12	10	12	6	17	5						1			88
10	1							1	2	1	4	5	9	9	7	3				2					44
10½					1		1	1	2	1	8	2	9	5	15	13	5	7	1	2			1	2	76
11							1	1	1		2	1	8	2	8	10	8	5	7	7			3	2	66
11½					1				1		1		2	1	10	7	3	8	4	9	5	3	2	2	59
12						1			1		3	1	1		6	2	11	9	7	9	5	5	3	8	72
12½							1				1		1		2	2	4	4	7	5	5	12	6	3	53
13								1	1		1	2	1		2	2	5	2	4	3	8	1	3	3	39
13½											1					2	2	2	4	1	6	1	13	2	34
14									1		1		1		4	1	2	2	2	1	6	2	3	3	39
14½											1		1		1	1	2		1	3	4	3	1		18
15															1			1	1		6	4	2	2	17
15½																	1				4	1	2		8
16																				1	2		1	2	6
16½												1											4		5
17																			1		1			1	3
17½																							2		2
18																							1		1
Total	47	36	76	51	45	31	55	56	42	30	62	45	48	31	75	51	43	40	30	34	38	28	47	30	913

Chart I on the following page compares the median ages of the Commodore Stockton pupils with those of the San Francisco schools as a whole. The increasing discrepancy is due not only to slow progress but also to the fact that the percentage of Chinese born pupils is greater in higher grades. (See Table VIII below). It is impossible to estimate the amount of retardation which is due to lack of normal progress and that due to the lack of a command of English.

TABLE VIII

Number and Per Cent of Pupils Born in China

	Grades						Total
	1	2	3	4	5	6	
Number in Grade	202	199	183	191	163	161	1099
Number born in China	17	14	30	28	37	40	166
Per cent born in China	8.4	7.0	16.4	14.1	22.7	24.2	15.1

It is felt that because of the language handicap, group intelligence tests should not be given in the lower grades of the Commodore Stockton School. However, the high 6 grade is given the test taken by all pupils of the city prior to junior high school entrance. In April, 1929, the National Intelligence Test B2 was given to the high 6 grades of the San Francisco schools.

The tabular statement below compares the chronological and mental ages of the Commodore Stockton high 6 grades with the city as a whole.

TABLE IX

Chronological and Mental Ages Compared

H 6 Grade		Q_1	Median	Q_3
San Francisco	CA	11-7	12-1	12-11
Commodore Stockton	CA	12-2	13-3	14-3
San Francisco	MA	11-6	12-6	13-6
Commodore Stockton	MA	10-3	11-5	12-5

This table brings out the fact that the Commodore Stockton pupils are approximately a year older chronologically and a year younger mentally than the San Francisco high 6 grade as a whole. While it is true that overageness does exist, those who deal with these pupils agree that considering their language handicap, no intelligence test is a fair measure of their ability, since reading comprehension is such a vital factor in group intelligence tests at that level.

GRAFT I

CHRONOLOGICAL AGES

March - 1929

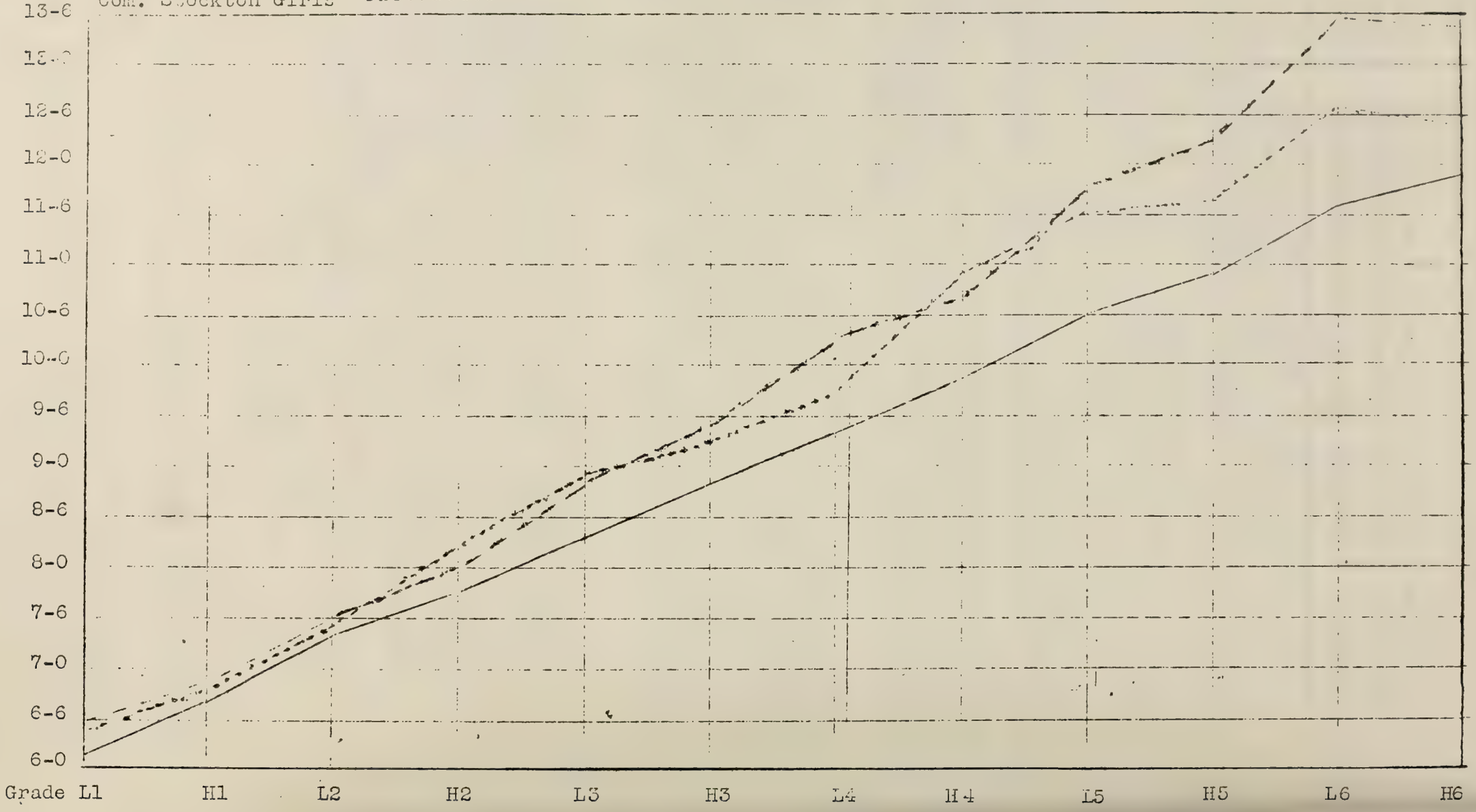


Chart II which follows is significant in that it distributes the pupils both chronologically and mentally. It is quite safe to say that those above the age of 15 (upper left) are there not because of low mental ability but because they are recently from China. In a group of pupils normal in both ability and experience, the 100 IQ line divides the group approximately in halves. In the distribution the 85 IQ line would divide the group.

The Stanford Reading Examination given to the Commodore Stockton pupils of grades 4, 5, and 6 shows the following results.

TABLE X

Commodore Stockton Reading Ages
(End of Term)

Grade	Com. Stockton Boys			Com. Stockton Girls		
	Q_1	Median	Q_3	Q_1	Median	Q_3
Low 4	8-4	9-1	9-7	8-7	9-2	9-8
High 4	8-7	9-4	9-10	9-0	9-5	9-11
Low 5	9-5	9-11	10-7	9-4	9-10	10-3
High 5	10-2	10-9	11-5	10-1	10-7	11-2
Low 6	9-8	10-8	11-0	9-11	10-11	11-11
High 6	10-1	10-9	11-4	10-2	10-9	11-5

Charts III and IV which follow compare the median reading ages of the Commodore Stockton boys and girls with their respective chronological ages and the San Francisco standard. It will be seen in the case of both boys and girls that the chronological age of the Commodore Stockton pupils greatly exceeds the San Francisco standard while the reading ages in every case are conspicuously lower. The girls in grades Low 5 and above are six months to a year younger than the boys. A partial explanation of this difference is that a greater number of boys are natives of China.

It will be noticed that as the chronological age advances in grade 6 there is a leveling of reading ability. The influx of non-English speaking Chinese pupils is probably the cause. This does not mean that there is no gain in reading ability but that the median is lowered by the addition of pupils with a greater language handicap.

The Detroit Word Recognition Test administered to the Commodore Stockton pupils of grades high 2, low 3, and high 3 show the following results:

TABLE XI

Detroit Word Recognition Test
(End of Term)

	Commodore Stockton Boys			Commodore Stockton Girls			Detroit Norms
	Q_1	Md.	Q_3	Q_1	Md.	Q_3	
High 2	22.6	27.1	30.8	20.1	25.5	29.9	34
Low 3	23.0	28.0	34.8	23.2	28.0	34.8	37
High 3	23.7	29.9	37.2	19.0	26.0	34.0	37

As one would expect, the word recognition ability of Commodore Stockton primary pupils is far below the standard. According to the author of the test, the results above do not meet the level expected of the dull group of unselected pupils.

The foregoing facts show that Commodore Stockton pupils are consistently older chronologically and consistently lower in ability than the San Francisco average for each grade

CHART II

DISTRIBUTION OF CHRONOLOGICAL AND MENTAL AGES

(N.I.T. April, 1929)
75 High 6 Pupils

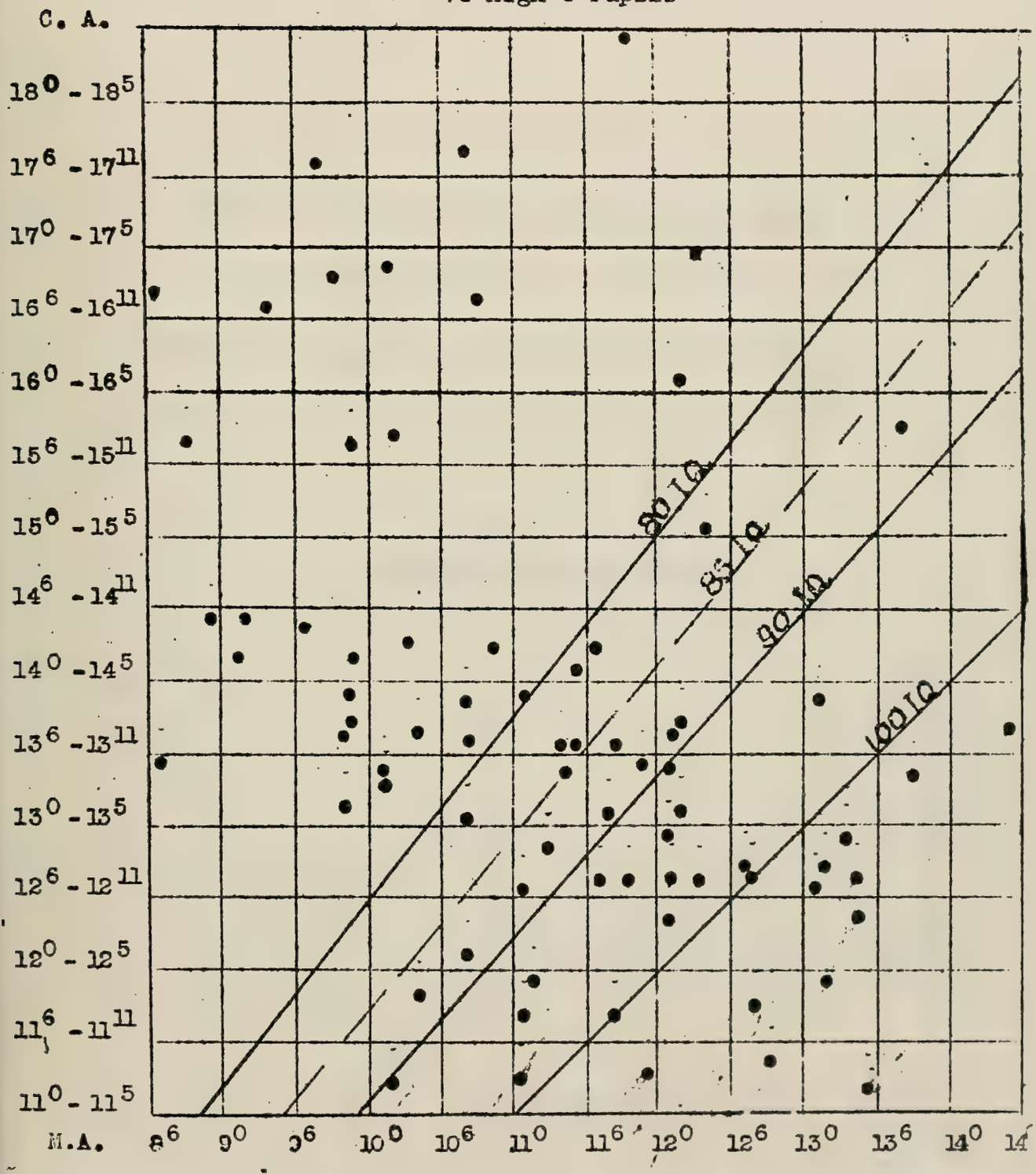


CHART III

COMMODORE STOCKTON BOYS

Median Reading Age and Chronological Age
for Grades 4, 5, and 6

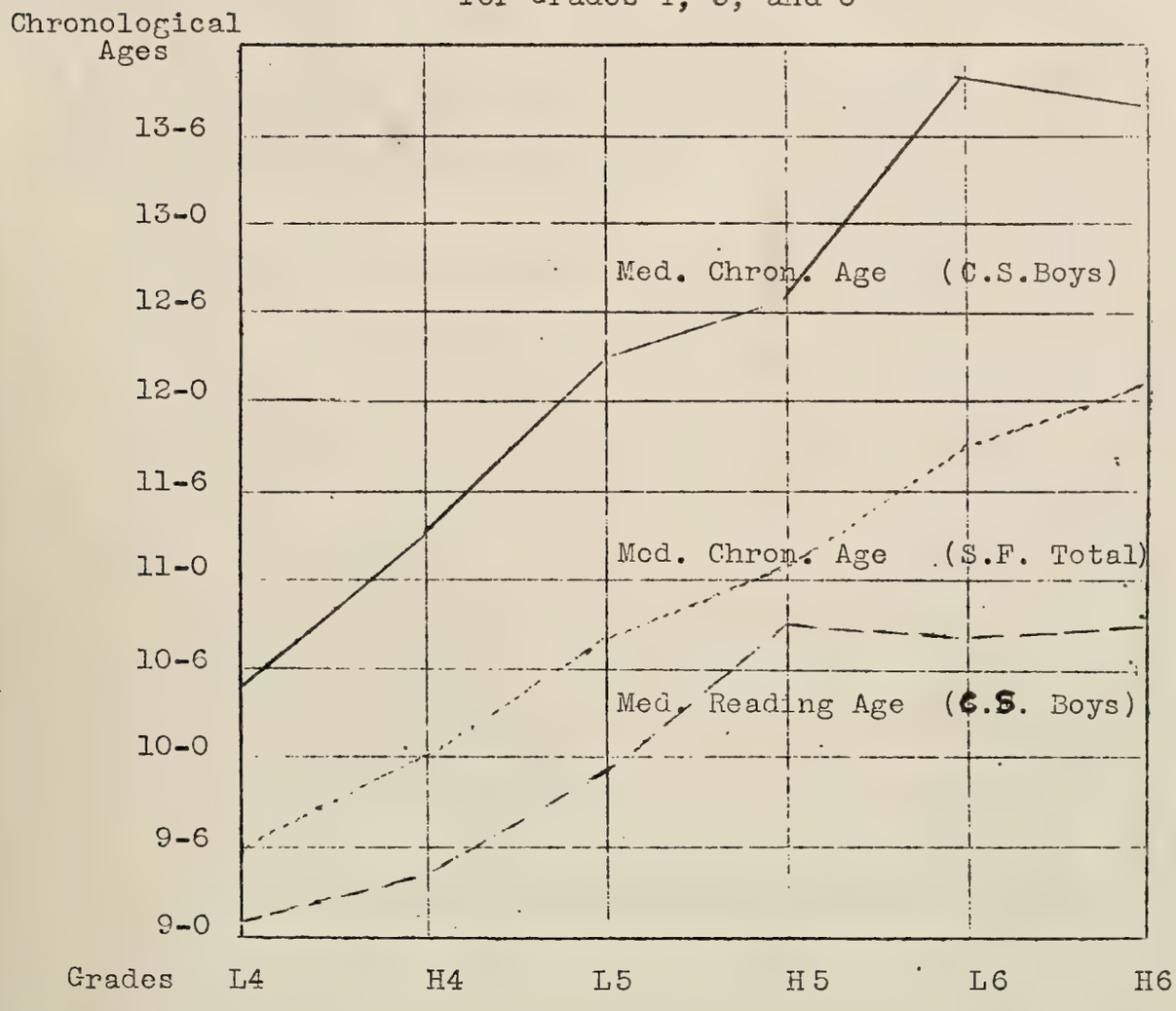
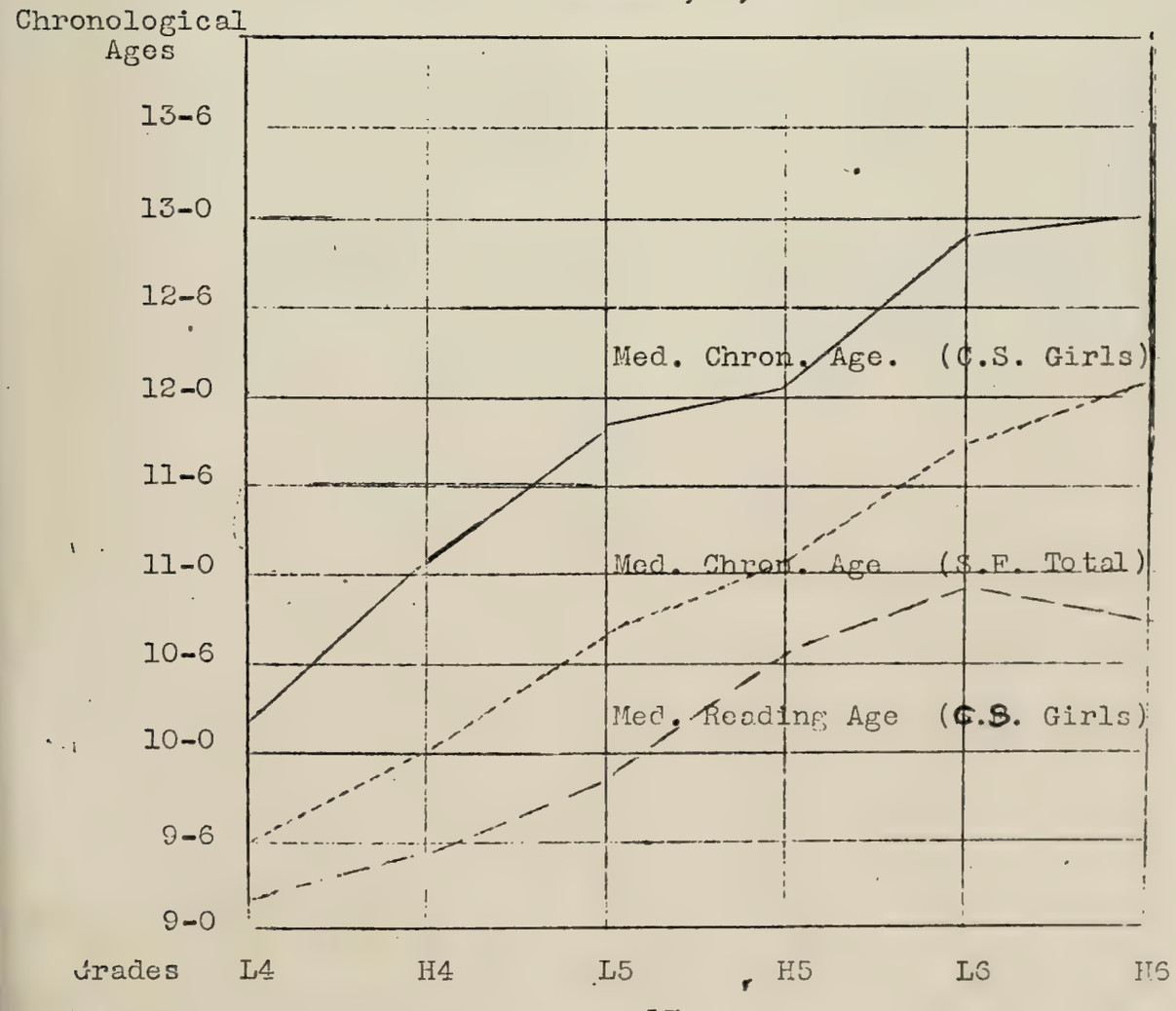


CHART IV

COMMODORE STOCKTON GIRLS

Median Reading Age and Chronological Age
for Grades 4, 5, and 6



respectively. In view of these facts an effort should be exerted to adapt the work to their abilities and needs. By making greater use of subject content within their interest and comprehension, it is believed that greater progress could be realized. In the adoption of curricular measures for the Chinese pupils of San Francisco, cognizance should be taken of the many points in which the Chinese are deserving of special educational treatment.

RETARDATION IN THE LOW 1 GRADE

As a starting point in the reduction of overageness, an investigation was centered in the low first grade. It is believed that by a careful check-up at this point, a great deal of future retardation might be averted.

The age of 7 years at the beginning of the first grade is considered a serious retardation, accepting the age of 6 as normal for first grade entrance. A retardation of one year at this point is more conspicuous and of greater consequence than a year at any other time in the child's school life. With this in mind, the principals of all schools having regular low first grades were asked to report the following information:

1. Names of pupils 7 years of age and over in low first grade
2. Chronological ages
3. Mental ages on basis of Pintner-Cunningham Mental Test.
4. Number of terms spent in low first grade
5. Probable cause of retardation according to teacher's judgment
6. Principal's recommendation as to placement

Of the 70 schools having low first grades, 12 reported no pupils over 7 years of age. The remaining 58 schools reported 276 cases distributed as follows:

25% - 7 or more pupils
50% - 4 or more pupils
75% - 2 or more pupils

While the great majority of the pupils are in their seventh chronological year, 10 per cent exceed the age of 8 years. These may be considered two or more years retarded.

Below will be found the length of time spent in the low first grade by the pupils who fall in the overage group.

TABLE I

Length of Time in Low First Grade

Number	Per cent	Status
111	40.2	Just entered
118	42.8	Repeated once
35	12.7	Repeated twice
12	4.3	No record

Very often it is difficult for teachers to determine whether a pupil's retardation is due to his inability to understand English or to low mental ability. However, these two causes according to teachers and principals are responsible for over half the overageness in the low first grade. See Table II below.

TABLE II

Causes of Overageness as Reported by Principal and Teacher

Number	Per cent	Cause of Overageness
74	28.1	Low mental ability
72	27.4	Foreign home
44	16.8	Poor health and irregular attendance
35	13.3	Overage at entrance
23	8.7	Changing schools
5	1.9	Poor home environment
10	3.8	Visual and auditory defects, accidents, General immaturity, emotional instability

While all irregular attendance is not due to poor health, the causes have been combined because they so often accompany each other. Some irregular attendance in the first grade is due to the fact that parents are not informed of the necessity of small children attending school every day, hence pupils are kept at home for trivial causes.

It will be noticed that 40 per cent of these pupils are entering school for the first time at the age of seven or above. Regardless of the fact that the age of six is the generally accepted age for first grade entrance and that all of the activities are designed for and centered about this age, parents still keep their six year old children at home. It seems that this fact calls for the dissemination of some information to parents prior to the opening of school each term. By a careful registering of pre-school age children, much of the overageness from this source could be eliminated.

A large number of children repeat a half grade each year because of a transfer during the term. The process of adjustment may cause a pupil to appear slow. Pupils who enter during the term should be given special attention in regard to placement. Change of schools alone is rarely the cause of a pupil's retardation.

In a few cases auditory and visual defects were mentioned as the probable cause of overageness. As special educational facilities are maintained for such pupils, there is no reason for their retention in the low first grade.

Out of 176 cases only 46 were reported by principals to be improperly placed. The recommendations in regard to the 46 follow:

25 recommended to ungraded class
12 to be retained in low first until ability to do better work is shown
5 recommended to junior primary
2 recommended to high first
1 recommended to school for crippled children
1 held in low first at mother's request

The Pintner-Cunningham Primary Mental Test was administered to these pupils upon leaving kindergarten or entering the first grade. The following results exclude 50 pupils who were absent from the test or so unfamiliar with English that the test was not given to them. Of those tested:

25% have mental ages below 4 years 3 months
30% " " " " 5 years 7 months
75% " " " " 6 years 8 months

While the mental ages were not treated for boys and girls separately, it is found that the number of boys who are retarded greatly exceeds the girls (62% boys and 35% girls). This fact is ordinarily attributed to lack of conformity to class room behavior on the part of the boys, rather than lower ability.

The tests indicate that approximately one-fourth of these overage pupils are well equipped mentally to do better than low first work. These pupils should be given an opportunity to do advanced work when possible.

Recommendations on Basis of Survey of Overage Low 1 Pupils

1. That parents be given more enlightening information relative to the age of school entrance.

2. That parents be informed relative to the necessity of regular attendance in the first grade.

3. That teachers be urged to give more careful observation to overage pupils, permitting those who are capable to advance faster.

4. That pupils who are to repeat low first grade should be given an individual intelligence test before the end of their first term of school.

5. That pupils who enter as transfers be given special attention in order that early adjustments might be made.

6. That no pupil should spend more than two terms in the low first grade without authorization of the supervisor of the primary grades.

7. That pupils who deviate from normal physically should be referred to the Division of Special Education for examination and recommendation.

It is felt that if the above measures are taken that overageness will be minimized, not only in the first grade but eventually throughout all of the grades.

Junior High Schools, Bulletin #10

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FRANCISCO JUNIOR HIGH SCHOOL

ACHIEVEMENT SURVEY

(November, 1928)

This investigation arose from the need felt by the principal and teachers of Francisco Junior High School for a better basis of classification than the one in use. Particularly, it was felt that grouping students according to mental and chronological ages for classes in reading did not yield groups whose reading ability was homogeneous. Many students whose mental age was equivalent to or greater than their chronological age did not seem to be able to do the work of an average ability group.

The mental ages of nearly all the pupils were available. The Terman Mental Test, Form B, was given to those whose record was missing. The Stanford reading, arithmetic and dictation tests were given to all students in grades Low 7 to Low 9 inclusive. It was not considered necessary to administer these tests to the High 9 grade inasmuch as the results could not be used for classification purposes.

The best single picture of the progress made by school children is an age-grade distribution. Table I shows this picture for the Francisco Junior High School. A single glance is sufficient to reveal that the degree of overageness is very great indeed. The percentage of students underage, normal age and overage in each grade, together with the percentage of pupils of different degrees of overageness is given in Table II. Nearly 70% of the pupils of Francisco Junior High School are overage for their grade, 38% being more than one year overage. Only 5.5% of the students are underage for their grade. The percentage of retardation is 18 times the percentage of acceleration. Such a condition is truly abnormal; its cause should be determined and remedial steps taken at once.

TABLE I

AGE GRADE DISTRIBUTION OF FRANCISCO JUNIOR HIGH SCHOOL (GRADES L7 - L9)

Grade	Age	11	11½	12	12½	13	13½	14	14½	15	15½	16	16½	17	17½	18	over 18	Total
Low 7	Boys	2	1	11	27	28	14	24	13	13	5	1	3		1	2	2	147
	Girls		3	10	21	23	15	10	12	5	5	2	1					107
High 7	Boys			4	4	16	21	22	16	12	16	6	1	2	1	1	1	123
	Girls		2	5	7	14	15	18	15	7	5	3	2	1				94
Low 8	Boys			3	3	16	27	14	18	19	13	4	4	5	1		5	132
	Girls				3	9	25	13	15	8	9	9	5	1				97
High 8	Boys			1	1	8	12	22	16	17	21	10	8	5	5		3	129
	Girls					2	9	9	18	14	13	15	3	4	2		3	92
Low 9	Boys						1	5	22	16	24	10	4	9	1	2	3	103
	Girls					1	2	14	17	9	8	12	6	4	2			75
TOTAL	Boys	2	1	19	35	68	75	87	85	77	79	37	20	21	9	5	14	634
	Girls		5	15	31	49	66	64	77	43	40	41	17	10	4	0	3	465
	Total	2	6	34	66	117	141	151	162	120	119	78	37	31	13	5	17	1099

TABLE II

PER CENT OF STUDENTS UNDERAGE, NORMAL AGE AND OVERAGE

		Per Cent Under-age	Per Cent Normal Age	Per Cent Over-age	Per Cent ½ to 1 Year Overage	Per Cent 1½ to 2 Years Overage	Per Cent 2½ to 3 Years Overage	Per Cent 3½ or More Years Overage
LOW 7	BOYS	2.0	25.9	72.1	23.6	25.2	12.2	6.1
	GIRLS	2.8	29.0	68.2	35.5	20.3	9.3	2.8
	TOTAL	2.4	27.2	70.5	31.5	23.2	11.0	4.7
HIGH 7	BOYS	3.3	16.3	80.5	35.0	22.8	17.9	4.9
	GIRLS	7.4	22.3	70.2	35.1	23.4	8.5	3.2
	TOTAL	5.1	18.9	76.0	35.0	23.0	13.8	4.1
LOW 8	BOYS	4.5	32.6	62.9	24.2	24.2	6.1	8.3
	GIRLS	3.1	35.1	61.9	28.9	17.5	14.4	1.0
	TOTAL	3.9	33.6	62.4	26.2	21.4	9.6	5.2
HIGH 8	BOYS	7.8	26.4	65.9	25.6	24.0	10.1	6.2
	GIRLS	2.2	19.6	78.3	34.3	30.4	7.6	5.4
	TOTAL	5.4	23.5	71.0	29.4	26.7	9.1	5.9
LOW 9	BOYS	1.0	26.2	72.8	38.8	19.4	9.7	4.9
	GIRLS	4.0	41.3	54.7	22.7	24.0	8.0	
	TOTAL	2.2	32.6	65.2	32.0	21.3	9.0	2.8
TO-TAL	BOYS	3.8	25.6	70.7	30.0	23.3	11.2	6.2
	GIRLS	3.9	29.0	67.1	31.8	23.0	9.7	2.6
	TOTAL	3.3	27.0	69.2	30.8	23.2	10.6	4.6

A summary of the results of the Stanford reading, arithmetic and spelling tests is expressed in the form of a frequency distribution as shown in Table III. These results are grouped by half grades and segregated according to sex.

The median, 1st quartile, and 3rd quartile are shown for each distribution. A summary of the medians, and quartiles of all grades is shown in Table IV. Reference to Tables III and IV reveals an enormous spread of ability in each half grade; in fact, without the grade caption at the head of the table, it would be difficult indeed to pick out the several grades.

TABLE III
Distribution of Results of Stanford
Reading, Arithmetic, and Spelling Tests

L 7 Grade

AGE	BOYS				GIRLS				TOTAL			
	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling
Under 9		5		1						5		1
9-0 to 9-5		1				1				2		
9-6 " 9-11		6				1				7		
10-0 " 10-5		11	3	2		6	2			17	5	2
10-6 " 10-11		18	9	4		18	8			36	17	4
11-0 " 11-5	2	27	21	35	1	11	20	17	3	38	41	52
11-6 " 11-11	6	31	31	25	5	24	23	18	11	55	54	43
12-0 " 12-5	17	19	19	16	17	11	12	13	34	30	31	29
12-6 " 12-11	29	15	23	18	25	11	12	18	54	24	35	36
13-0 " 13-5	21	6	16	14	20	7	11	12	41	13	27	26
13-6 " 13-11	19	4	5	15	10	2	4	7	29	6	9	22
14-0 " 14-5	18	2	10	4	11	5	7	5	29	7	17	21
14-6 " 14-11	15	3	3	2	10	3	2	4	25	6	5	6
15-0 " 15-5	8	4	4		3	1	1	2	11	5	5	4
15-6 " 15-11	4		4		4	1	2	[illegible]	8	1	6	5
16-0 " 16-5	1				1	1		1	2	1		1
16-6 " 16-11	2		1			1		1	2	1	1	1
17-0 " 17-5												
17-6 " 17-11	3								3			
18-0 " 18-5												
18-6 and over	2								2			
TOTAL	147	150	140	142	107	104	104	101	254	254	253	243
Q_1	12-8	10-10	11-6	11-5	12-7	11-0	11-4	11-2	12-7	11-0	11-0	11-0
MD.	13-4	11-7	12-2	12-0	13-2	12-0	11-11	12-6	13-7	11-7	12-1	12-[illegible]
Q_3	14-5	12-2	13-2	12-1	14-6	12-8	[illegible]	13-3	14-0	12-8	13-1	13-2

TABLE III (Cont'd)
Distribution of Results of Stanford
Reading, Arithmetic and Spelling Tests

H 7 Grade

Age	BOYS				GIRLS				TOTAL			
	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling
Under 9				16				9				25
9-0 to 9-5			1	1			1				2	1
9-6 " 9-11		3	2	2		2		1		5	2	3
10-0 " 10-5		10	4	4		8	1			18	5	4
10-6 " 10-11		13	7	2		9	8			22	15	2
11-0 " 11-5		30	17	19	2	8	7	9	2	38	24	28
11-6 " 11-11	3	25	15	21		15	16	13	3	40	31	34
12-0 " 12-5	2	13	20	15	8	14	16	11	10	27	36	26
12-6 " 12-11	9	11	16	18	13	9	10	16	22	20	26	34
13-0 " 13-5	19	5	10	12	13	4	6	5	32	9	16	17
13-6 " 13-11	23	3	3	4	16	5	3	5	39	8	6	9
14-0 " 14-5	19	1	10	1	17	6	2	5	36	7	12	6
14-6 " 14-11	14	2	6	2	12	2	9	5	26	4	12	7
15-0 " 15-6	14	3	6	2	3	2	3	3	17	5	9	5
15-6 " 15-11	13	2	5	1	6	3	6	3	19	5	11	4
16-0 " 16-5	1	2		2	1	1	2	3	2	3	2	5
16-6 " 16-11	2		3		3	3		2	5	3	3	2
17-0 " 17-5	1						1		1		1	
17-6 " 17-11	2		1						2		1	
18-0 " 18-5												
18-6 and over	1						1		1		1	
TOTAL	123	123	123	122	94	91	92	90	217	214	215	212
Q_1	13-5	11-9	11-5	11-2	13-0	11-2	11-7	11-8	13-3	11-1	11-6	11-1
Md	14-1	11-8	12-4	11-10	13-9	12-1	12-3	12-6	14-0	11-9	12-4	12-1
Q_3	15-2	12-2	13-6	12-8	14-6	13-2	13-8	13-7	14-10	12-8	13-8	13-0

TABLE III (Cont'd)
Distribution of Results of Stanford
Reading, Arithmetic, and Spelling Tests

L 8 Grade

Age	BOYS				GIRLS				TOTAL			
	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling
Under 9												
9-0 to 9-5							1				1	
9-6 " 9-11		1				2				3		
10-0 " 10-5		4	1	1		1	3			5	2	3
10-6 " 10-11		7	2	3		7	3	1		14	7	2
11-0 " 11-5		13	12			15	10	1		28	22	1
11-6 " 11-11	2	22	15	9		10	15	1	2	32	30	10
12-0 " 12-5	2	19	12	23	1	14	15	12	3	33	27	35
12-6 " 12-11	7	19	26	39	2	12	18	20	9	31	44	59
13-0 " 13-5	24	12	16	17	22	9	9	14	46	21	25	31
13-6 " 13-11	19	5	7	4	18	6	7	14	37	11	14	18
14-0 " 14-5	20	5	10	10	13	3	2	7	33	8	12	17
14-6 " 14-11	16	9	12	7	12	10	2	7	30	19	14	14
15-0 " 15-5	17	3	4	3	8	3	4	6	25	6	8	9
15-6 " 15-11	8	8	6	6	12	1	3	5	20	9	9	11
16-0 " 16-5	4	5	3	4	7		3	3	11	5	6	7
16-6 " 16-11	4		4	1	1	2		2	5	2	4	3
17-0 " 17-5	3		1	1	1		1	2	4		2	3
17-6 " 17-11	1		1	1					1		1	1
18-0 " 18-5												
18-6 and over	5					1			5	1		
TOTAL	132	132	132	129	97	96	96	95	229	228	228	224
Q_1	13-5	11-7	12-0	12-5	13-5	11-6	11-9	13-5	13-5	11-7	11-10	12-6
Md	14-3	12-6	12-11	12-10	14-2	12-6	12-6	14-2	14-3	12-7	12-8	13-0
Q_3	15-2	13-9	14-4	13-10	15-3	13-10	13-4	15-3	15-2	13-8	13-11	14-7

TABLE III (Cont'd)
Distribution of Results of Stanford
Reading, Arithmetic, and Spelling Tests

H 8 Grade												
	BOYS				GIRLS				TOTAL			
Age	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling	Chrono-logical	Reading	Arith-metic	Spelling
Under 9												
9-0 to 9-5		1								1		
9-6 " 9-11		2		4		1				3		4
10-0 " 10-5		3		8				2		3		10
10-6 " 10-11		2	3	13		2	3	2		4	6	15
11-0 " 11-5		18	7	5		10	7	4		28	14	9
11-6 " 11-11		19	12	5		9	11	2		28	23	7
12-0 " 12-5	1	18	13	13		13	10	5	1	31	23	18
12-6 " 12-11	2	17	18	17	2	8	14	16	4	25	32	33
13-0 " 13-5	10	8	17	11	4	4	9	8	14	12	26	19
13-6 " 13-11	20	4	8	8	11	8	6	3	31	12	14	11
14-0 " 14-5	18	1	10	10	13	11	7	8	31	12	17	18
14-6 " 14-11	16	9	12	5	12	9	9	6	28	18	21	11
15-0 " 15-5	26	10	3	9	17	5	2	7	43	15	5	16
15-6 " 15-11	10	7	6	5	15	5	5	10	25	12	11	15
16-0 " 16-5	10	7	4	7	8	2	4	8	18	9	8	15
16-6 " 16-11	7	1	6	3	5	4	1	2	12	5	7	5
17-0 " 17-5	2	1	6	1	2	1	2	5	4	2	8	6
17-6 " 17-11	4		3	1			1		4		4	1
18-0 " 18-5	1							2	1			2
18-6 and over	2			1	3				5			1
TOTAL	129	128	128	126	92	92	91	90	221	220	219	216
Q_1	14-2	11-9	12-4	11-9	14-3	12-0	12-1	12-8	14-1	11-10	12-2	12-3
Md	14-10	12-6	13-4	12-11	15-1	13-3	13-0	14-2	15-0	12-11	13-2	13-3
Q_3	15-10	14-9	14-9	14-6	15-10	14-8	14-3	15-9	15-9	14-9	14-7	15-2

TABLE III (Cont'd)
Distribution of Results of Stanford
Reading, Arithmetic, and Spelling Tests

9 Grade												
	BOYS				GIRLS				TOTAL			
Age	Chronological	Reading	Arithmetic	Spelling	Chronological	Reading	Arithmetic	Spelling	Chronological	Reading	Arithmetic	Spelling
Under 9												
9-0 to 9-5		1		12						1		12
9-6 " 9-11		1								1		
10-0 " 10-5		1								1		
10-6 " 10-11		1	1			1				2	1	
11-0 " 11-5		6	4			2	2			8	6	
11-6 " 11-11		9	13	2		6	10			15	23	2
12-0 " 12-5		14	8	9		6	6	2		20	14	11
12-6 " 12-11		12	12	14		9	14	3		21	26	17
13-0 " 13-5		6	11	10	2	9	13	5	2	15	24	15
13-6 " 13-11	2	13	11	6	5	8	4	9	7	21	15	15
14-0 " 14-5	17	8	9	11	25	7	2	7	42	15	11	18
14-6 " 14-11	16	9	9	8	7	10	3	4	23	19	12	12
15-0 " 15-5	24	6	2	7	8	5	3	7	32	11	5	14
15-6 " 15-11	17	3	8	7	11	7	6	17	28	10	14	24
16-0 " 16-5	9	5	3	6	8	2	5	5	17	7	8	11
16-6 " 16-11	8	3	4	1	7	1	1	6	15	4	5	7
17-0 " 17-5	4	2	2	4	1		1	3	5	2	3	7
17-6 " 17-11	3		2	1	1	1	1	5	4	1	3	6
18-0 " 18-5	1		1	1			1		1		2	1
18-6 and over	2	1	1				2	1	2	1	3	1
TOTAL	103	101	101	99	75	74	74	74	178	175	175	173
Q_1	14-8	12-2	12-4	12-6	14-3	12-7	12-6	13-11	14-5	12-4	12-5	13-0
Md	15-4	13-4	13-7	13-7	14-11	13-9	13-3	15-6	15-3	13-7	13-4	13-4
Q_3	16-0	14-7	14-10	15-1	15-11	14-9	15-2	16-3	16-0	14-8	14-10	15-8

TABLE IV

MEDIANS AND QUARTILES IN DISTRIBUTION

OF CHRONOLOGICAL, READING, ARITHMETIC AND DICTATION AGES

	LOW 7			HIGH 7			LOW 8			HIGH 8			LOW 9		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.	Yrs. Mos.
							Chronological Age								
Q_1	12-8	12-7	12-7	13-5	13-0	13-3	13-5	13-6	13-6	14-2	14-3	14-1	14-8	14-3	14-5
Md	13-4	13-2	13-3	14-1	13-9	14-0	14-3	14-2	14-3	14-10	15-1	15-0	15-4	14-11	15-3
Q_3	14-5	14-3	14-0	15-2	14-6	14-10	15-2	15-3	15-2	15-10	15-10	15-9	16-0	15-11	16-0
							Reading Age								
Q_1	10-11	11-0	10-11	11-1	11-2	11-1	11-7	11-6	11-7	11-9	12-0	11-10	12-2	12-7	12-4
Md	11-7	11-10	11-7	11-8	12-1	11-9	12-6	12-6	12-7	12-6	13-3	12-11	13-4	13-9	13-7
Q3	12-2	12-9	12-9	12-2	13-2	12-8	13-9	13-10	13-8	14-9	14-8	14-9	14-7	14-9	14-8
							Arithmetic Age								
Q_1	11-6	11-4	11-6	11-5	11-7	11-6	12-0	11-9	11-10	12-4	12-1	12-3	12-4	12-6	12-5
Md	12-2	11-11	12-1	12-4	12-3	12-4	12-11	12-6	12-8	13-4	13-0	13-2	13-7	13-3	13-4
Q3	13-2	13-0	13-1	13-6	13-8	13-8	14-4	13-4	13-11	14-9	14-3	14-7	14-10	15-2	14-10
							Spelling Age								
Q_1	11-5	11-8	11-6	11-2	11-8	11-1	12-5	13-5	12-6	11-9	12-8	12-3	12-6	13-11	13-0
Md	12-1	12-6	12-3	11-10	12-6	12-1	12-10	14-2	13-0	12-11	14-2	13-3	13-7	15-6	14-4
Q_3	13-1	13-3	13-2	12-8	13-7	13-0	13-10	15-3	14-7	14-6	15-9	15-2	15-1	16-3	15-8

The following conclusions are drawn from a study of the data presented.

1. The amount and degree of overageness in Francisco Junior High School is extremely high and indicates a need for careful inquiry concerning the causes to be followed by recommendations for remedial steps.

2. More boys of Francisco Junior High School are retarded than girls, and the degree of retardation or overageness is greater in the case of the boys.

3. On the average the children of Francisco Junior High School are less retarded in arithmetic than in reading. This probably indicates that a large number of children in this school are suffering from a language handicap. This is supported by the fact that a large number come from homes of foreign parents.

4. The boys excell the girls in arithmetic on the average.

5. The girls excell the boys in reading on the average.

6. A study of the distribution of reading, arithmetic and spelling ages for each half year indicates that there is justification for a greater amount and degree of acceleration than now exists.

7. There is more retardation than is warranted on the basis of ability in reading, spelling, and arithmetic.

RECOMMENDATIONS:

1. It is recommended that classes in reading and arithmetic be formed on the basis of ability in these subjects rather than according to mental ability alone.

2. Since reading is the subject in which the lowest scores were made, it is recommended that a diagnosis of the reading difficulties be made, and a program of remedial instruction be based on the result of the diagnosis.

3. It is recommended that particular attention be paid to the classification of pupils entering Francisco Junior High School. Retarded pupils whose ability would warrant their being in a higher grade should be immediately reclassified.

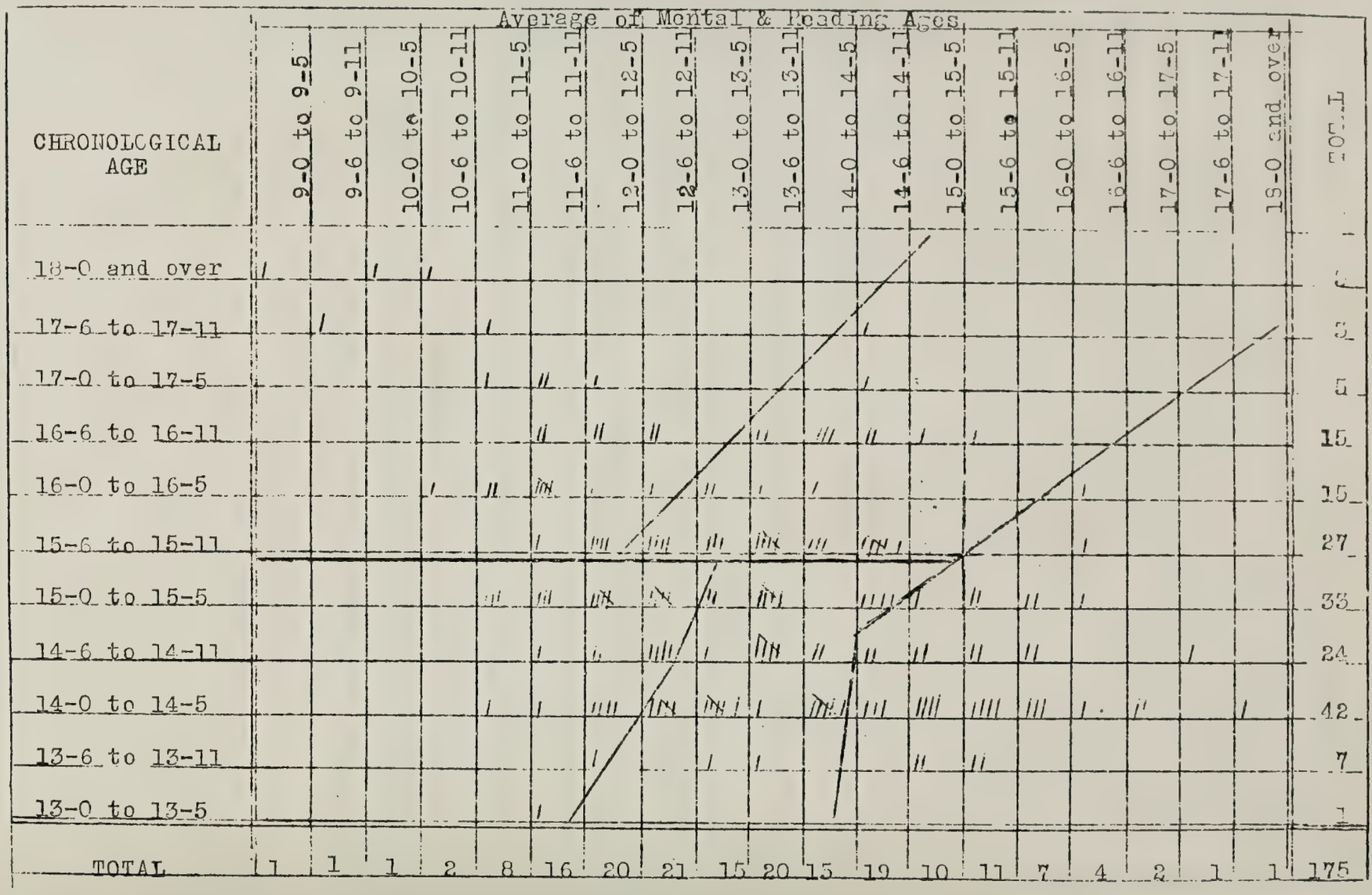
4. The following plan for classification according to ability is recommended:

   a. The following data for each pupil will be necessary: Chronological Age, Mental Age, Reading Age, Arithmetic Age.

   b. Within each grade pupils in English should be grouped according to their position in the grade in chronological age and a combination of their mental and reading ages.

DIAGRAM I

DISTRIBUTION OF GROUP OF JUNIOR HIGH SCHOOL STUDENTS ACCORDING TO CHRONOLOGICAL AGES AND AVERAGE OF MENTAL AND READING AGES



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SAN FRANCISCO PUBLIC SCHOOLS
OFFICE OF THE SUPERINTENDENT

DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building Page and Gough Streets

[San Francisco (City & County) Board of Education.
Bureau of Research, Adult Education, & Evening Schools]

C E R T I F I C A T I O N A N D T R A I N I N G
O F S A N F R A N C I S C O T E A C H E R S

F A C T S C O N C E R N I N G E N R O L L M E N T

Bulletin #12
January, 1930

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

Bulletin No. 12
January, 1930

CERTIFICATION

We believe it will be of interest to the members of the department to know certain facts concerning training and certification of the teaching force.

I - HIGHEST TYPE OF TEACHING CERTIFICATE HELD (as reported on the State October Report 1929)

A - JUNIOR HIGH SCHOOLS:

School	Gen. Sec.		Spec. Sec.		Jr. High		Total	
	No.	%	No.	%	No.	%	No.	%
Crocker	19	54	11	32	5	14	35	100
Daniel Webster	14	70	4	20	2	10	20	100
Everett	30	52	17	29	11	19	58	100
Francisco	21	47	14	31	10	22	45	100
Hamilton	12	40	13	43	5	17	30	100
Horace Mann	23	43	20	38	10	19	53	100
John Swett	16	57	10	36	2		28	100
Noe Valley	12	57	5	24	4	19	21	100
Portola	12	46	7	27	7	27	26	100
TOTAL	159		101		56		316	

B - SENIOR HIGH SCHOOLS

School	Gen. Sec.		Spec. Sec.		Total	
	No.	%	No.	%	No.	%
Balboa	34	71	14	29	48	100
Galileo	66	68	31	32	97	100
Girls	34	71	14	29	48	100
Commerce	57	72	22	28	79	100
Lowell	73	81	17	19	90	100
Mission	66	65	36	35	102	100
Polytechnic	62	68	29	32	91	100
TOTAL	392		163		555	

C - PART TIME AND EVENING HIGH SCHOOLS

School	Gen. Sec.		Spec. Sec.		Total	
	No.	%	No.	%	No.	%
Part Time	30	60	20	40	50	100
Evening Commerce	32	52	29	48	61	100
Evening Galileo	10	37	17	63	27	100
Humboldt Evening	23	34	*45	66	68	100
Polytechnic Evening	16	47	18	53	34	100
TOTAL	111		129		240	

*Includes 9 teachers of Short Unit courses

II - ADMINISTRATIVE AND SUPERVISORY CERTIFICATES (In addition to a teaching certificate.)

A - JUNIOR HIGH SCHOOLS

School	Administrative	Supervisory	Total
Crocker	5	0	5
Daniel Webster	3	0	3
Everett	4	0	4
Francisco	7	1	8
Hamilton	2	0	2
Horace Mann	9	2	11
John Swett	4	1	5
Noe Valley	6	3	9
Portola	4	1	5
TOTAL	44	8	52

B - SENIOR HIGH SCHOOLS

School	Administrative	Supervisory	Total
Balboa	7	3	10
Galileo	24	7	31
Girls	3	3	6
High of Commerce	16	8	24
Lowell	14	6	20
Mission	25	15	40
Polytechnic	14	10	24
TOTAL	103	52	155

C - PART TIME AND EVENING HIGH SCHOOLS

School	Administrative	Supervisory	Total
Part Time	17	3	20
Evening Commerce	5	0	5
Evening Galileo	4	2	6
Humboldt Evening	4	0	4
Polytechnic Evening	7	1	8
TOTAL	37	6	43

III - PROFESSIONAL TRAINING OF S.F. TEACHERS (From Annual Report 1928-1929)

College or University	Kinder-garten	Elemen-tary	Junior High	Senior High	Total
Bachelor's Degree only	1	54	56	134	245
5th Yr. No higher degree	0	29	80	229	338
Higher Degree	0	20	49	167	236
TOTAL	1	103	185	530	819
Normal or Teachers College					
Credential only	79	1345	84	132	1640
Bachelor's degree	1	28	9	4	42
TOTAL	80	1373	93	136	1682
GRAND TOTAL	81	1476	278	666	2501

IV - TEACHERS' CERTIFICATES (From Annual Report 1928-1929)

	Kinder-garten	Elemen-tary	Junior High	Senior High	Total
K-Pri. II incl Gr. 1-2-3	50				50
K-Pri.I incl. 1st Gr. only	24				24
Kindergarten only	11				11
Primary		42			42
General Elementary		1337	1		1338
Junior High only		91	35		126
Junior High incl Elem			35		35
General Secondary		52	149	499	700
Special Elementary		17	1		18
Special Secondary		63	97	335	495
TOTALS	85	1602	318	834	2839

V - FACTS CONCERNING ENROLLMENTS

A - ENROLLMENT IN SAN FRANCISCO SCHOOLS BY GRADES - STATE ENROLLMENT FOR 1st, 2nd and 3rd MONTHS 1929-1930

Grade	Elementary Schools	Junior High Schools	High Schools	Total
Kindergarten	4195			4195
1	7624			7624
2	6576			6576
3	6649			6649
4	6591			6591
5	6050			6050
6	6063			6063
TOTAL	43748			43748
7	3310	2414		5724
8	3144	2731		5875
TOTAL	6454	5145		11599
9		2722	*3442	6164
10		75	4951	5026
11			3361	3361
12			2399	2399
TOTAL		2797	14153	16950
GRAND TOTAL	50202	7942	14153	72297

*Does not include 1109 in Adult Education.
Does not include 3848 in Part Time High School.

Table A above shows the distribution of school enrollment according to grades for the first, second and third school months (cumulative) of the school year 1929-1930.

B - ATTENDANCE STATISTICS - STATE ENROLLMENT (1st month)

Year Ending June 30	Kinder-garten	Grades 1 - 6	Grades 7 - 9	Grades 10 - 12	Total
1924	1,769	37,103	14,789	5,728	59,389
1925	2,096	38,196	15,419	6,361	62,072
1926	2,567	37,476	16,017	7,026	63,086
1927	2,440	37,994	16,938	7,441	64,813
1928	3,543	38,139	17,790	8,256	67,728
1929	3,868	38,571	17,727	9,586	69,752

Table B avove shows a total growth of about 10,000 over a five year period figured on State Enrollment (from 1st month figures). The greatest growth has been Kindergarten (over 100%). The enrollment in grades 10 to 12 has increased about 85%.

C - PER CENT OF CHILDREN ENROLLEN IN EACH SCHOOL DIVISION FROM 1924 TO 1929

Year Ending June 30	Kinder-garten	Grades 1 - 6	Grades 7 - 9	Grades 10 - 12	Total
1924	2.98	62.47	24.90	9.65	100.00
1925	3.38	61.53	24.84	10.25	100.00
1926	4.07	59.40	25.38	11.15	100.00
1927	3.76	58.62	26.13	11.49	100.00
1928	5.23	56.31	26.27	12.19	100.00
1929	5.55	55.30	25.41	13.74	100.00

Table C shows the percentage of children enrolled in the several divisions of the schools.

D - SAN FRANCISCO PUBLIC SCHOOLS CUMULATIVE STATE ENROLLMENT IN EVENING HIGH SCHOOLS AND EVENING ELEMENTARY SCHOOLS 1929 - 1930

Evening High Schools	1st month	2nd month	3rd month
Commerce	2593	3097	3441
Galileo	1316	1674	1857
Humboldt	2915	3302	3491
Polytechnic	1239	1495	1617
TOTALS	8063	9568	10406
Evening Elementary Schools	**1st month**	**2nd month**	**3rd month**
Francisco	254	322	376
Hamilton	499	606	671
Horace Mann	593	770	908
Lincoln	272	333	361
TOTALS	1618	2031	2316

E - PUPILS ENROLLED OR REACHED BY SPECIAL SERVICES 1929-1930

Types of Special Service	1st month	2nd month	3rd month
Lip Reading	*96	336	341
Speech Correction	*1947	2603	2627
Diagnostic Class	15	16	22
Sight Conservation			
9th Grade	3	3	4
1 - 8th Grades	34	35	39
Ungraded classes including Ungraded School	639	805	811
Hospital Classes	145	157	159
Home Class for Cripped Children	14	16	17
Division of Adult Education Day Americanization classes for foreign women	718	930	1109
Gough School (Deaf)	43	43	44
Buena Vista School (Open Air)	67	69	69
Open Air Classes			
Pacific Heights School	16	16	16
Crocker School	21	22	22
	37	38	38

*Figures for High Schools and Junior High Schools not available for first month.

Bulletin #14

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Bulletin No. 14

February 7, 1930

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TEACHER LOAD IN SAN FRANCISCO JUNIOR HIGH SCHOOLS

Spring Term, 1929-1930

The following tables are presented in order to give a view of the situation with respect to the teaching load in the San Francisco junior high schools.

Table I presents a distribution of the number of periods during which teachers teach.

Table II shows the total number of teaching periods in each junior high school, the number of teaching periods in which the class enrollment is under 20, and the per cent of the total teaching periods in which the enrollment is under 20.

Table III presents a distribution of the loads carried by San Francisco junior high school teachers expressed in terms of pupil periods per week. Table III is divided into four parts as follows: A, Academic Teachers; B, Art, Industrial Arts, and Domestic Arts Teachers; C, Music Teachers; and D, Physical Education Teachers.

Table IV shows the average teacher load in the several junior high schools expressed in terms of pupil hours per week for academic teachers, and for art, industrial arts, and domestic arts teachers.

Conclusions:

1. There is a high degree of variability of periods taught per week among the different junior high school teachers.

2. There is a high degree of variability of pupil periods per week among teachers of the same school, and among the several junior high schools.

Problems for further Study:

1. The factors contributing to this high variability will constitute a problem for further study.

2. The extent to which such factors as course of study, school enrollment, grade enrollment, and school plant act as determinants of class size and teacher load will be studied.

TABLE I

DISTRIBUTION OF TEACHING PERIODS IN JUNIOR HIGH SCHOOLS

Number of Teaching Periods	DISTRIBUTION OF TEACHING PERIODS*									
	Crocker	Daniel Webster	Everett	Francisco	Hamilton	Horace Mann	John Swett	Noe Valley	Portola	Total
Under 20							1[3]	1[5]		2
20	1			1						2
21				1		1	1			3
22		2				3[1]	3		3[6]	11
23	2	4		1	5	2	1		3	18
24	8	8	40	10	17	7	9	3	6	108
25	3	2	8	10	2	14	4	6	2	51
26	8	1	5	10	3	11[2]	3[4]	5	6	52
27	2			7		3		1		13
28	5	1	2	4		6	1	1	2	22
29			1				1		1	3
30				1						1
Total	29	18	56	45	27	47	24	17	23	286
Average	25.3	24.0	24.6	25:4	24.1	25.2	24.4	25.1	24.9	24.9

*Note: The teaching time of Vice-Principals, Librarians, and Secretaries is not included in the above tabulation.

1 Includes 2 periods devoted to teaching Le Conte students.
2 Includes 2 periods devoted to teaching Le Conte students.
3 Teacher teaches 16 periods at John Swett and 12 periods at Spring Valley; not included in average.
4 Includes 10 teaching periods at Noe Valley.
5 Teacher teaches 18 periods at Noe Valley and remainder of time at other school; not included in average.
6 Teacher also spends 6 periods at Ethan Allen; not included in average.

TABLE II

TOTAL TEACHING PERIODS IN SAN FRANCISCO JUNIOR HIGH SCHOOLS;
TEACHING PERIODS WITH CLASSES UNDER 20; AND
PER CENT OF TEACHING PERIODS WITH CLASSES UNDER 20

School	Total Number of Teaching Periods	Number of Teaching Periods with classes under 20	Per cent of periods with classes under 20
Crocker	736	177	24.05
Daniel Webster	444	114	25.68
Everett	1391	42	3.02
Francisco	1158	137	11.83
Hamilton	661	116	17.55
Horace Mann	1216	137	11.27
John Swett	589	136	23.09
Noe Valley	455	126	27.69
Portola	578	122	21.11
Total	7228	1107	15.32

TABLE III

DISTRIBUTION OF PUPIL PERIODS PER WEEK

San Francisco Junior High Schools

A. ACADEMIC TEACHERS

Pupil Periods per week	Crocker	Daniel Webster	Everett	Francisco	Hamilton	Horace Mann	John Swett	Noe Valley	Portola	Total
Under 300										
300-349									1[4]	1
350-399										
400-449							1			1
450-499				1			1			2
500-549				3						3
550-599		1		1						2
600-649		1		1	1		1			4
650-699	1	1	1	1	1		2	1	1	9
700-749			1	2			2	1	1	7
750-799	1	3		2	1	1		1	1	10
800-849	2	2	4[1]	3	3	1	3	4	1	23
850-899	4		10[1]	4		7	1	1	1	28
900-949	3	1	6	7		4	2		2	25
950-999	4		10	3	3	4		1	3[5]	28
1000-1049	1		1	2	2	6			1	13
1050-1099		1		1	3	5				10
1100-1149										
1150-1199										
Over 1200			2[2]							2
Total	16	10	35[3]	31	14	28	13	9	12	168
Average	894	785	926	820	911	959	733	814	808	869

[1] This includes 4 periods of Art.
[2] Teacher also has classes in Physical Education.
[3] Teacher with conservation of vision class omitted from above distribution.
[4] Teacher has special classes.
[5] Teacher also has classes in Physical Education.

TABLE III

DISTRIBUTION OF PUPIL PERIODS PER WEEK

San Francisco Junior High Schools

B. INDUSTRIAL AND DOMESTIC ARTS AND ART TEACHERS

Pupil Periods per week	Crocker	Daniel Webster	Everett	Francisco	Hamilton	Horace Mann	John Swett	Noe Valley	Portola	Total
Under 300							1[d]			1
300-349	1									1
350-399	1							2[f]	1[g]	4
400-449	2	2		1	4	3[b]	2		1	15
450-499	4	1	1		3	5[c]	1	2	4	21
500-549	1	2		2	1	1	1[e]	1		9
550-599		1	2			2	1		1	7
600-649			5	3	1	2	1		1	13
650-699			3	1			1			5
700-749			1							1
750-799			1							1
800-849				1						1
850-899										
900-949			1							1
950-999										
1000-1049										
1050-1099										
1100-1149										
1150-1199										
Over 1200										
Total	9	6	14	8	9	13	8	5	8	80
Average	442	492	557	606	475	506	500	445	463	524

[a] Teacher also has classes in English.
[b] Two periods devoted to LeConte students in addition to above load.
[c] Two periods devoted to LeConte students in addition to above load.
[d] Teacher spends approximately half time at Spring Valley School.
[e] Includes 184 pupil periods at Noe Valley Junior High School.
[f] Spends only 3½ days at Noe Valley.
[g] Teacher spends 6 periods at Ethan Allen in addition to above load.

TABLE III

DISTRIBUTION OF PUPIL PERIODS PER WEEK

San Francisco Junior High Schools

C. MUSIC TEACHERS

Pupil Periods per week	Crocker	Daniel Webster	Everett	Francisco	Hamilton	Horace Mann	John Swett	Noe Valley	Portola	Total
Under 300										
300-349										
350-399										
400-449									1	1
450-499										
500-549										
550-599										
600-649	1									1
650-699									1[1]	1
700-749							1			1
750-799			1							1
800-849	1	1			2					4
850-899				1		1		1		3
900-949										
950-999										
1000-1049			1							1
1050-1099										
1100-1149						1				1
1150-1199						1				1
Over 1200			1	1						2
Total	2	1	3	2	2	3	1	1	2	17
Average	725	825	1100	1125	825	1092	725	875	550	885

[1] Teaches 14 periods of Music and 12 periods of French.

TABLE III

DISTRIBUTION OF PUPIL PERIODS PER WEEK

San Francisco Junior High Schools

D. PHYSICAL EDUCATION TEACHERS

Pupil Periods per week	Crocker	Daniel Webster	Everett	Francisco	Hamilton	Horace Mann	John Swett	Noe Valley	Portola	Total
Under 300						1				1
300-349										
350-399										
400-449										
450-499										
500-549						1				1
550-599				1[1]						1
600-649								1[4]		1
650-699				1			1			2
700-749					1					1
750-799		1							1	2
800-849					1		1	1[3]		3
850-899	2			1						3
900-949			1							1
950-999			1	1[2]						2
1000-1049										
1050-1099										
1100-1149										
1150-1199										
Over 1200			1			2				3
Total	2	1	3	4	2	4	2	2	1	21
Average	875	775	1125	775	775	900	750	725	775	851

[1] Teaches 7 periods English, remaining Physical Education.
[2] Teaches 12 periods Mathematics, remaining Physical Education.
[3] Teaches 12 periods Social Science, remaining Physical Education.
[4] Teaches 12 periods Spanish, remaining Physical Education.

TABLE IV

AVERAGE PUPIL-PERIODS PER WEEK

San Francisco Junior High Schools

School	Academic Subjects	Art, Industrial and Domestic Arts
Crocker	894	442
Daniel Webster	785	492
Everett	926	557
Francisco	820	606
Hamilton	911	475
Horace Mann	959	506
John Swett	733	500
Noe Valley	814	445
Portola	808	463
Average	869	524

Office of the
Superintendent San Francisco Public Schools

DEPARTMENT OF EDUCATIONAL
RESEARCH AND SERVICE
MOULDER BUILDING, PAGE AND GOUGH STREETS

PROGRAM PROBLEMS AND PRACTICE IN SENIOR HIGH SCHOOLS OF SAN FRANCISCO

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PROGRAM PROBLEMS AND PRACTICE IN SENIOR HIGH SCHOOLS OF SAN FRANCISCO

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DURING the fall term 1929 a study of teacher-load in all the senior high schools of San Francisco was made by the Department of Educational Research and Service.* The primary objectives of this investigation were:

(a) to determine the median instructional load of senior high school teachers, and

(b) to furnish a basis upon which comparisons could be made among the several schools and departments.

The seven high schools regularly doing senior high school work were included in the study. A brief description of each school is necessary in order that the data which follow may be interpreted with greater precision.

Balboa High School is a new high school, having an enrollment of about 1230 pupils all in grades 9 and 10. Each term one-half grade is added. Thus, in a very short time, the school will become a regular four-year high school. A general high school course is offered. In general, classes meet five times per week, and periods are 46 minutes in length.

Galileo High School offers a general high school course to the 2340 pupils enrolled in grades 9 to 12 inclusive. Classes in this school meet, in general, four times per week. The periods are 50 minutes in length.

Girls High School enrolls girls only. It had its origin in the Union Grammar School of San Francisco (one of the oldest secondary schools in California) established in 1856. In 1864 the Union Grammar School was divided into two schools, one for girls and the other for boys. This marked the beginning of both Girls and Lowell High Schools. The enrollment at the time the data for this study were collected, was 1187 girls enrolled in grades 9 to 12 inclusive. A general high school course for girls is offered. Periods are 47 minutes in length and classes meet five times per week.

High School of Commerce, as its name signifies, was originally a school in which a general commercial training was offered. The course has been broadened until now all general high school courses, except courses in industrial arts, are offered. However, in this school is to be found the most comprehensive commercial course offered by the San Francisco high schools. The course is adapted to the needs of boys as well as girls. The enrollment is 2257 pupils in grades 9 to 12 inclusive. Classes meet five times per week and periods are 46 minutes in length.

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*This study was made at the request of, and in collaboration with, Mr. John C. McGlade, Deputy Superintendent in charge of senior high schools.

Lowell High School, which was for a number of years after 1864, a school for boys, became a co-educational school in 1887. Its curriculum is chiefly academic or college preparatory. No work is offered in commercial, industrial arts or household arts courses. The enrollment at present is about 2400 pupils in grades 9 to 12 inclusive. Some periods are 40 minutes in length, with classes meeting five times per week, while the remaining periods are 50 minutes, with classes meeting four times per week.

Mission High School has an enrollment of 2250 pupils in grades 10 to 12 inclusive, being at present the only high school in the city to be organized on a strictly senior high school basis. A general high school course is offered. Classes meet five times per week and periods are 53 minutes in length.

Polytechnic High School is a four year high school, having 2176 pupils enrolled in grades 9 to 12 inclusive. As its name signifies, many special courses are offered, although the general high school courses make up the curriculum. Classes meet five times per week and periods are 46 minutes in length.

The data from which this study is derived were obtained during the first month of the fall term 1929 from the weekly programs of all teachers, in the seven senior high schools.

Distribution of Pupils and Teachers by Departments and Schools

Table I shows the number of pupils pursuing each subject group in each school, and the per cent that this number is of the total subject enrollments of the school. Thus, 1227 pupils of Balboa High School were enrolled in the English department, 347 pupils in the social science department, 544 pupils in the mathematics department, 951 pupils in the modern language department, 308 pupils in the science department, 73 pupils in the Latin department, 1137 pupils in the commercial department, 412 pupils in the industrial arts department, 369 pupils in the household arts department, 199 pupils in the fine arts department, 192 pupils in the mechanical drawing department, and 146 pupils in the music department, making a total of 5905 subject enrollments in Balboa High School. Following each number is the per cent that it is of 5905, the total subject enrollments of the school. Phrased another way, approximately 20.8 per cent of the total work done by the 1230 pupils of Balboa High School is done in the English department, 5.9 per cent in social science, et cetera.

It will be noted that the subject groups are divided into academic and non-academic, and that science, while not technically academic, is included with the academic group. The per cent of work done in academic and non-academic groups is shown for each school in the sub-totals. The two final columns represent the totals for all schools combined. In making comparisons certain differences existing in the make-up of the schools should be kept in mind.

From the totals it will be seen that approximately 20 per cent of the work done by the San Francisco senior high school pupils is in the English subject group; about 14 per cent is in the social science group; 10 per cent is in the mathematics group; 12 per cent is in the modern language group; 10 per cent is in the science group; and 2 per cent is in the Latin group. Thus, for all the schools combined,

about two-thirds of the work done is in the group of academic subjects, leaving about one-third of the work in the so-called non-academic group, and distributed as follows:

16 per cent in the commercial group
3 per cent in the industrial arts group
3 per cent in the household arts group
4 per cent in the fine arts group
3 per cent in the mechanical drawing group
3 per cent in the music group

In the totals for all schools, the English and commercial subject groups have the highest percentages, with 19.6 per cent and 15.9 per cent, respectively, while mechanical drawing and Latin have the lowest percentages with 2.8 per cent and 2.0 per cent respectively.

Considerable variation exists in the comparison of the different subject groups in the several schools, but these variations may be explained in large measure by the differences in the type of organization and curricular make-up of the schools.

TABLE I.

SUBJECTS	BALBOA		COMMERCE		GALILEO		GIRLS HIGH		LOWELL		MISSION		POLYTECHNIC		TOTAL	% OF ALL
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%		
English	1227	20.8	2136	19.0	2361	18.3	1279	22.4	2609	19.8	2041	18.6	2159	19.7	13812	19.6
Soc. Sci.	347	5.9	1221	10.8	1834	14.2	622	10.9	2563	19.6	1782	16.3	1343	12.3	9732	13.7
Mathematics	544	9.2	818	7.3	1667	12.9	434	7.6	1887	14.3	776	7.1	1073	9.8	7199	10.2
Mod. Lang.	951	16.1	1481	13.2	1567	12.1	906	15.8	1702	12.9	812	7.4	1006	9.2	8425	11.9
Science	308	5.2	698	6.2	1359	10.6	551	9.6	2277	17.3	919	8.4	1155	10.5	7267	10.3
Latin & Greek	73	1.2	77	.6	319	2.5	117	2.0	636	4.8	93	.9	133	1.2	1448	2.0
Totals Academic	3450	58.4	6431	57.1	9107	70.6	3909	68.3	11694	88.7	6423	58.7	6869	62.7	47883	67.6
Commercial	1137	19.2	3738	33.2	2003	15.5	863	15.1	0	0	2597	23.7	897	8.2	11235	15.9
Ind. Arts	412	7.0	0	0	415	3.3	0	0	0	0	587	5.4	956	8.7	2370	3.2
H. H. Arts	369	6.2	345	3.1	294	2.3	461	8.1	0	0	331	3.0	381	3.5	2182	3.1
Art	199	3.4	249	2.2	392	3.0	352	6.1	689	5.2	317	2.9	681	6.2	2879	4.1
Mech. Draw.	192	3.2	160	1.4	419	3.2	0	0	112	.9	368	3.4	736	6.7	1987	2.8
Music	146	2.5	336	3.0	273	2.1	137	2.4	682	5.2	325	2.9	433	4.0	2332	3.3
Semi-Totals Special	2455	41.6	4830	42.9	3796	29.4	1813	31.7	1483	11.3	4524	41.3	4084	37.3	22965	32.4
Grand Totals	5905	100	11261	100	12903	100	5722	100	13177	100	10947	100	10955	100	70868	100

Class Size, Pupils per Teacher, and Average Number of Pupils per Class

Table II A, B and C shows the total number of pupils, total number of teachers, average number of pupils per teacher, and average number of pupils per class, by departments for each of the seven schools.

Column 1 for each department gives the total number of pupils doing work in that department in each school, and the total for all schools.

Column 2 gives the number of teachers in the department for each school and for all schools. Fractions indicate part-time work in the department. (Teachers sometimes work in two or more departments.)

In column 3 is listed the average number of individual pupils per teacher for each school and for all schools. Some of the variation found in this column is due to the fact that in Galileo and Lowell High Schools a large proportion of the classes meet 4 times per week, whereas in the other five schools the prevailing practice is 5 times per week. Thus, Galileo and Lowell have a larger number of individual pupils per teacher.

The average number of pupils per class per teacher is shown in column 4, for each school and for all schools.

TABLE II-A

School	Enrol	Grade	ENGLISH				SOCIAL SCIENCE				MATHEMATICS				COMMERCE			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BALBOA	1230	9-10	1227	7.8	157.3	31.4	347	2.1	165.5	31.5	544	3.4	160.0	32.0	1137	6.0	189.5	34.4
GALILEO	2340	9-12	2361	13.14	179.7	30.6	1834	9.15	200.4	33.4	1667	8.99	185.4	31.4	2003	10.82	185.1	31.8
GIRLS	1187	9-12	1279	10.0	127.9	26.1	622	4.8	129.6	27.0	434	3.05	142.3	28.9	863	5.2	166.0	33.2
COMMERCE	2257	9-12	2136	13.0	164.3	33.9	1221	7.0	174.4	35.9	818	5.0	163.6	34.1	3738	19.53	191.4	35.2
LOWELL	2407	9-12	2609	14.65	178.1	31.1	2583	13.0	198.7	33.5	1887	10.5	179.7	31.9	-	-	-	-
MISSION	2251	10-12	2041	15.05	135.6	28.3	1782	10.85	164.2	31.8	776	5.0	155.2	29.8	2597	15.6	166.5	32.9
POLY	2176	9-12	2159	14.33	150.7	29.5	1343	9.6	139.9	33.5	1073	7.0	153.3	30.6	897	4.68	191.7	31.0
TOTAL	13848		13812	87.97	157.0	30.1	9732	56.5	172.2	32.4	7199	42.94	167.7	31.8	11236	61.83	181.7	33.1

TABLE II-B

School	MODERN LANGUAGES				HOUSEHOLD ARTS				INDUSTRIAL ARTS				SCIENCE			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BALBOA	951	6.2	158.4	30.7	369	2.83	130.4	26.3	412	3.66	112.6	24.0	308	2.6	118.5	25.7
GALILEO	1567	9.64	162.6	28.0	294	3.0	98.0	17.3	415	5.0	83.0	19.7	1359	11.82	115.0	25.6
GIRLS	906	6.8	133.2	26.6	461	3.86	119.4	23.1	-	-	-	-	551	5.55	99.3	22.0
COMMERCE	1481	10.0	148.1	32.3	345	2.4	143.8	23.0	-	-	-	-	698	7.25	96.3	24.9
LOWELL	1702	11.33	150.2	26.2	-	-	-	-	-	-	-	-	2277	16.66	136.7	26.5
MISSION	812	7.16	113.4	22.5	332	3.0	110.7	23.7	587	5.0	117.4	20.9	919	9.5	96.7	24.8
POLY	1006	6.33	158.9	28.7	381	3.13	121.7	21.2	956	7.0	136.6	20.4	1155	11.0	105.0	24.5
TOTAL	8425	57.46	146.6	27.9	2182	18.22	119.8	22.4	2370	20.66	114.7	21.23	7267	64.38	112.9	24.9

TABLE II-C

	LATIN AND GREEK				ART				MECHANICAL DRAWING				PHYSICAL EDUCATION				MUSIC			
School	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BALBOA	73	.6	121.7	24.4	199	1.2	165.8	28.4	192	1.33	144.4	24.0	1221	5.5	222.0	40.7	146	1.0	146.0	29.2
GALILEO	519	2.14	149.1	24.5	392	3.0	130.7	20.6	419	3.0	139.7	22.1	2056	8.33	246.8	49.0	273	1.32	206.8	34.1
GIRLS	117	1.2	97.5	23.4	352	3.4	103.5	20.7	–	–	–	–	1169	6.0	194.8	35.4	137	1.0	137.0	27.4
COMMERCE	77	.6	128.3	25.7	249	1.83	136.1	22.6	160	1.0	160.0	26.6	2055	9.0	228.3	38.8	338	1.6	211.3	37.5
LOWELL	636	3.66	173.8	28.9	563	4.0	172.3	26.5	112	1.0	112.0	18.7	1835	7.0	262.1	47.1	682	4.0	170.5	27.2
MISSION	93	.83	112.0	18.6	317	3.0	105.7	18.6	368	3.0	122.7	17.6	1990	9.0	221.1	46.2	323	2.0	161.5	32.3
POLY	133	1.22	109.0	19.0	681	5.8	117.4	22.0	736	6.2	118.7	21.6	2043	8.6	237.6	37.8	433	3.0	144.3	25.5
TOTAL	1448	10.25	141.3	23.5	2879	22.23	129.5	22.8	1987	15.53	127.9	21.8	12369	53.43	231.5	42.1	2333	13.92	167.5	30.5

The following tabulation shows the average number of pupils per class for all schools by departments arranged in rank order, and the range in average class-size of all schools by departments.

TABLE III

SUMMARY OF TABLE II-A-B-C

Department	*Average number of pupils per class*	*Range in average class size*
Physical Education	42.1	35.4 to 49.0
Commerce	33.1	31.0 to 35.2
Social Science	32.4	27.0 to 35.9
Mathematics	31.2	28.9 to 34.1
Music	30.5	25.5 to 37.5
English	30.1	26.1 to 33.9
Modern Language	27.9	22.5 to 32.3
Science	24.9	22.0 to 26.5
Latin	23.5	18.6 to 28.9
Fine Arts	22.8	18.6 to 28.4
Household Arts	22.4	17.3 to 26.3
Mechanical Drawing	21.8	17.6 to 26.6
Industrial Arts	21.2	19.7 to 24.0

Teacher Load

The investigation was extended to include a study of the actual teaching loads of the teachers involved.

The following tabulations show the existing conditions regarding the instructional load of teachers in the various departments of the several schools.

A common standard is necessary in order that comparisons may be made between the several schools. The standard used in this study was *"pupil-clock-hours per week."* One *"pupil-clock-hour"* is defined as sixty minutes of class work for one pupil. Thus there is represented in a class of 30 pupils during one fifty-minute period, a total of 25 pupil-clock-hours. The total instructional load per week for an individual teacher is the sum of the pupil-clock-hours represented in all the teaching periods of this teacher during the week.

Not many schools have 60-minute or full-hour periods. As a means of comparing the teaching loads in any school regardless of the length of the period with the results of this study, the formula below is suggested. In Table XVIII will be found median teaching-loads of San Francisco teachers by departments, stated in terms of pupil-clock-hours per week. The formula will give the teaching load, stated in terms of pupil-recitations per week, which corresponds to the median teaching loads listed in Table XVIII.

$$\frac{\textit{Median teaching load (See Table XVIII)} \times \textit{60 min.}}{\textit{length of period in minutes}}$$

For example, the corresponding teaching load stated in terms of pupil-recitations per week for teachers in an English department of a school in which periods are 50 minutes in length would be

$$\frac{601\ (\textit{See Table XVIII}) \times 60\ \textit{minutes}}{50\ \textit{minutes}}$$

$=721.2$ *pupil-recitations*

In drawing conclusions from the tabulations presented, the following facts should be noted:

1. The load of each teacher is counted but once. In the event a teacher teaches in more than one department, his or her total load is counted in that department in which the major part of his or her work is done.
2. Four teachers doing part-time work are not included.
3. Classes taught by vice-principals are not included for the reason that they usually teach but one class per day.
4. Differences exist in the organization of the schools.
5. Differences exist among the schools in the kind of work offered.

(For differences mentioned in 4 and 5, refer to description of schools in the foregoing pages.)

Tables IV to IX show the range and median teaching load for each school by departments for each so-called academic subject. Science is included. Chart A depicts the same information.

Column 1 gives name of school.
Column 2 gives number of teachers included.
Column 3 gives the greatest teaching load.
Column 4 gives the point above which the teaching loads of one-fourth of the teachers of the school or schools are listed.
Column 5 gives the median teaching load for the school or schools.
Column 6 gives the point above which the teaching loads of 75 per cent of the teachers are listed.
Column 7 gives the smallest teaching load of the school or schools.

TABLE IV

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN ENGLISH DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	6	660	637	600	575	555
Galileo	14	673	621	614	575	413
Girls	10	637	562	530	505	355
Commerce	11	699	683	666	637	293
Lowell	15	726	654	569	512	426
Mission	15	667	645	624	594	380
Polytechnic	16	682	625	580	525	302
All Schools	87	726	646	601	546	293

TABLE V

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN SOCIAL SCIENCE DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	2	718	—	657	—	596
Galileo	9	798	669	635	612	583
Girls	5	609	594	562	462	412
Commerce	7	706	—	662	—	552
Lowell	13	743	709	658	604	493
Mission	11	795	741	706	579	508
Polytechnic	8	675	650	625	575	517
All Schools	55	798	703	636	587	412

TABLE VI

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN MATHEMATICS DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	4	690	650	625	550	475
Galileo	9	730	669	625	562	367
Girls	3	657	—	625	—	584
Commerce	5	693	—	658	—	486
Lowell	10	710	675	625	562	343
Mission	5	715	—	675	—	592
Polytechnic	7	762	662	591	562	517
All Schools	43	762	676	629	573	343

TABLE VII

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN MODERN LANGUAGES DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	7	659	656	612	579	562
Galileo	10	603	594	560	512	293
Girls	7	625	581	537	487	441
Commerce	10	629	595	570	537	475
Lowell	11	587	537	544	509	353
Mission	7	583	541	519	509	334
Polytechnic	6	655	644	625	606	498
All Schools	58	659	598	556	502	293

TABLE VIII

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN SCIENCE DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	2	637	—	585	—	534
Galileo	12	760	634	608	566	483
Girls	6	587	575	550	475	387
Commerce	8	649	575	516	450	410
Lowell	17	680	587	521	482	350
Mission	10	680	642	600	537	482
Polytechnic	11	631	581	531	444	294
All Schools	66	760	614	547	501	294

TABLE IX

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN LATIN AND GREEK DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	1	514	—	514	—	514
Galileo	1	367	—	367	—	367
Girls	1	359	—	359	—	359
Commerce	1	556	—	556	—	556
Lowell	4	633	—	575	—	469
Mission	1	539	—	539	—	539
Polytechnic	1	544	—	544	—	544
All Schools	10	633	575	525	475	359

See Chart A on next page for medians and range of teaching loads stated in terms of pupil-clock-hours in English, Social Science, Mathematics, Modern Languages, Science, and Greek and Latin.

The next series of tabulations, Tables X to XVI, gives the range and median teaching load for each school by departments for the so-called non-academic subjects. The same data are presented graphically by Chart B.

TABLE X

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN COMMERCIAL DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	6	917	887	650	587	551
Galileo	11	760	662	619	584	553
Girls	5	776	—	675	—	612
Commerce	21	908	812	755	531	467
Mission	16	958	787	733	667	433
Polytechnic	4	744	—	650	—	636
All Schools	63	958	763	697	609	433

CHART A

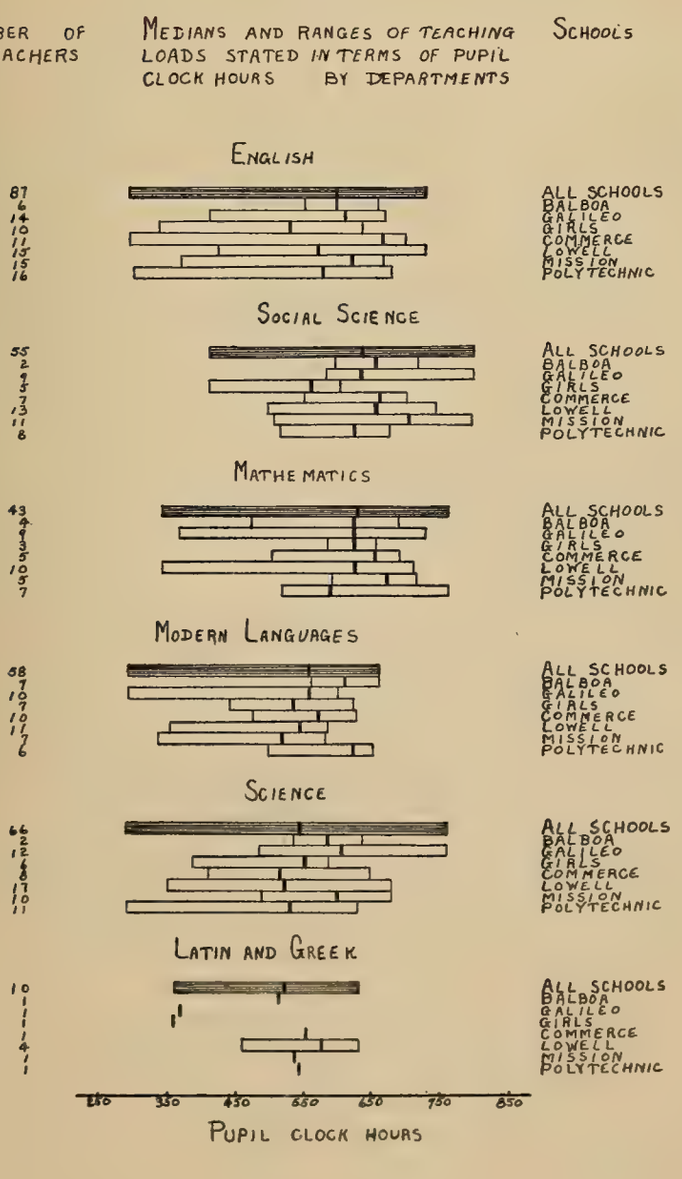

NUMBER OF TEACHERS
MEDIANS AND RANGES OF TEACHING LOADS STATED IN TERMS OF PUPIL CLOCK HOURS BY DEPARTMENTS
SCHOOLS
ENGLISH
87 6 14 10 11 15 15 16
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
SOCIAL SCIENCE
55 2 9 5 7 13 11 8
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
MATHEMATICS
43 4 9 3 5 10 5 7
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
MODERN LANGUAGES
58 7 10 7 10 11 7 6
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
SCIENCE
66 2 12 4 8 17 10 11
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
LATIN AND GREEK
10 1 1 1 4 1 1
ALL SCHOOLS BALBOA GALILEO GIRLS COMMERCE LOWELL MISSION POLYTECHNIC
230 330 430 530 630 730 830
PUPIL CLOCK HOURS

TABLE XI

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN INDUSTRIAL ARTS DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	4	613	—	600	—	520
Galileo	5	534	—	487	—	417
Mission	5	592	—	487	—	313
Polytechnic	7	644	—	575	—	268
All Schools	21	644	595	525	462	268

TABLE XII

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN HOUSEHOLD ARTS DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	3	663	—	625	—	578
Galileo	3	483	—	375	—	293
Girls	4	596	—	475	—	351
Commerce	3	538	—	512	—	370
Mission	3	724	—	525	—	300
Polytechnic	3	561	—	425	—	257
All Schools	19	724	578	508	394	257

TABLE XIII

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN FINE ARTS DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	1	660	—	660	—	660
Galileo	3	557	—	425	—	333
Girls	3	490	—	425	—	331
Commerce	2	521	—	475	—	431
Lowell	4	700	—	575	—	447
Mission	3	495	—	485	—	464
Polytechnic	6	521	—	466	—	276
All Schools	22	700	541	478	425	276

TABLE XIV

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN MECHANICAL DRAWING DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	1	517	—	517	—	517
Galileo	3	553	—	525	—	327
Commerce	1	613	—	613	—	613
Lowell	1	373	—	373	—	373
Mission	3	570	—	562	—	499
Polytechnic	6	529	—	500	—	299
All Schools	15	613	556	515	394	299

TABLE XV

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN MUSIC DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	1	560	—	560	—	560
Galileo	1	644	—	644	—	644
Girls	1	559	—	559	—	559
Commerce	2	747	—	744	—	741
Lowell	4	642	—	525	—	416
Mission	2	733	—	700	—	693
Polytechnic	3	575	—	525	—	494
All Schools	14	747	675	583	525	416

TABLE XVI

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK IN PHYSICAL EDUCATION DEPARTMENTS BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	6	960	925	833	708	692
Galileo	8	1113	975	750	550	440
Girls	6	1037	875	750	675	572
Commerce	9	1125	1069	862	706	544
Lowell	7	816	775	550	475	416
Mission	9	1170	1119	992	954	548
Polytechnic	9	1050	994	925	712	682
All Schools	54	1170	987	825	679	416

See Chart B on next page for medians and ranges of teaching loads stated in terms of pupil-clock-hours in Commercial, Industrial Arts, Household Arts, Fine Arts, Mechanical Drawing, Music, and Physical Education.

Table XVII shows the distribution of teaching loads for the 527 teachers by schools. The range for all schools is from 257 at Polytechnic to 1170 at Mission. The median is 598. The range of the medians of the seven schools is from 554 at Lowell to 645 at Commerce. Chart C presents the information in graphic form.

TABLE XVII

PUPIL-CLOCK-HOURS PER TEACHER PER WEEK BY SCHOOLS

1 School	2 No. of Teachers	3 High	4 Q_3	5 Mdn.	6 Q_1	7 Low
Balboa	44	960	687	625	575	475
Galileo	89	1113	641	603	530	293
Girls	51	1037	619	562	487	330
Commerce	80	1125	733	645	536	293
Lowell	86	816	648	554	490	343
Mission	90	1170	725	625	539	300
Polytechnic	87	1050	643	579	502	257
Total	527	1170	671	598	519	257

CHART B

MEDIANS AND RANGES OF TEACHING LOADS STATED IN TERMS OF PUPIL CLOCK HOURS BY DEPARTMENTS

CHART C

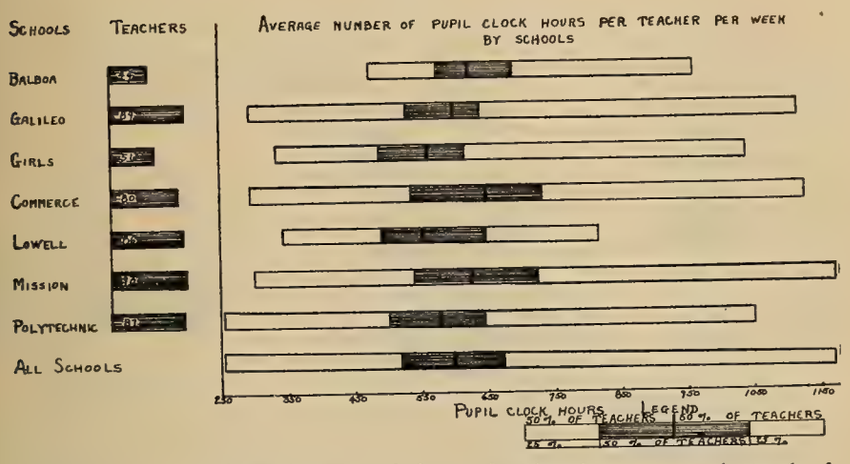


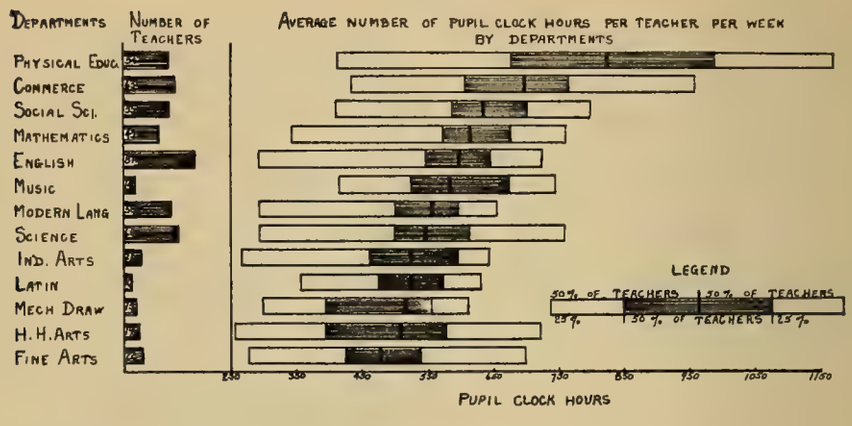
Table XVIII gives the same information by departments instead of by schools. The range is the same (from 257 in household arts to 1170 in physical education) as it is in the preceding table. The median for all departments is 598. The range of the medians for the several departments is from 478 in fine arts to 825 in physical education. The upper quartile for all departments is 671, ranging from 987 in physical education to 541 in fine arts. The lower quartile for all departments is 519, ranging from 679 in physical education to 394 in both mechanical drawing and household arts.

Summarizing we may say that one-half of the San Francisco senior high school teachers have instructional loads of more than 598 pupil-clock-hours per week, while one-half have less than that amount. The instructional-loads of 50 per cent of the teachers lie between 671 and 519 pupil-clock-hours, with 25 per cent less than 519 and 25 per cent more than 671 pupil-clock-hours per week. Chart D depicts the same data.

TABLE XVIII
PUPIL-CLOCK-HOURS PER TEACHER PER WEEK
BY DEPARTMENTS

1 *Department*	2 *No. of Teachers*	3 *High*	4 Q_3	5 *Mdn.*	6 Q_1	7 *Low*
Physical Ed.	54	1170	987	825	679	416
Commercial	63	958	763	697	609	433
Social Science	55	798	703	636	587	412
Mathematics	43	762	676	629	573	343
English	87	726	646	601	546	293
Music	14	747	675	583	525	416
Mod. Languages	58	659	598	556	502	293
Science	66	760	614	547	501	294
Industrial Arts	21	644	595	525	462	268
Latin	10	633	575	525	475	359
Mechanical Drawing	15	613	556	515	394	299
Household Arts	19	724	578	508	394	257
Fine Arts	22	700	541	478	425	276
Total	527	1170	671	598	519	257

CHART D



As stated at the outset, this study was initiated to determine the size of the instructional load of senior high school teachers. The study presents a picture of the existing situation in San Francisco. As a record of prevailing practice in San Francisco, it will be more or less valuable in making comparisons.

A Survey of Small Classes

In making a study of small classes it does not suffice merely to enumerate the number of classes in each school with less than 20 pupils, which number according to the ruling of the Board of Education shall be the minimum number of pupils in a class unless special permission is granted. One must consider the total number of periods per week that such classes meet.

It does not seem comparable to put on the same basis, an English teacher with one class under 20 pupils which meets five times per week, and a science teacher with one class under 20 pupils which meets seven times per week. In order that all may be on the same basis relatively, all teaching periods with less than 20 pupils are considered in the tabulations which follow.

Table XIX shows the number of teaching periods per week with less than 20 pupils by departments and by schools. The so-called academic subjects are placed at the top of the list, and the totals for both academic and non-academic segregated. In academic subjects, there are 604 teaching periods under 20 pupils, and 817 in non-academic making a grand total of 1421. The table shows clearly the comparative standing of both the schools and departments with respect to number of teaching periods under 20 pupils. These data are presented graphically for schools by Chart E and for departments by Chart F.

TABLE XIX

NUMBER OF TEACHING PERIODS PER WEEK WITH LESS THAN 20 PUPILS

Departments	*Balboa*	*Galileo*	*Girls*	*Commerce*	*Lowell*	*Mission*	*Polytechnic*	*Total*
English	—	8	40	—	4	10	30	92
Soc. Sci.	—	4	—	—	5	5	10	24
Math.	—	20	—	—	18	10	10	58
Mod. Lang.	10	28	10	5	39	40	15	147
Science	—	52	61	—	19	28	54	214
Latin	5	16	—	5	13	10	20	69
Academic Sub Total	15	128	111	10	98	103	139	604
Commercial	—	16	10	5	—	—	5	36
Ind. Arts	5	60	—	—	—	50	95	210
H. H. Arts	10	51	25	5	—	25	35	151
Fine Arts	—	36	35	5	12	50	60	198
Mech. Draw.	—	20	—	—	17	10	60	107
Music	—	4	10	—	36	20	30	100
Physical Ed.	—	—	—	—	—	10	5	15
Non-Academic Sub Total	15	187	80	15	65	165	290	817
Grand Total	30	315	191	25	163	268	429	1421

CHART E

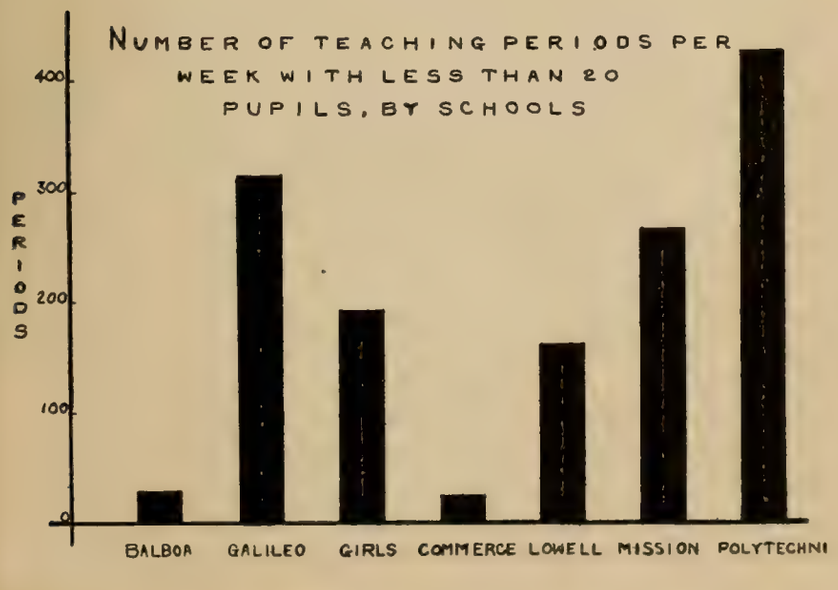


CHART F

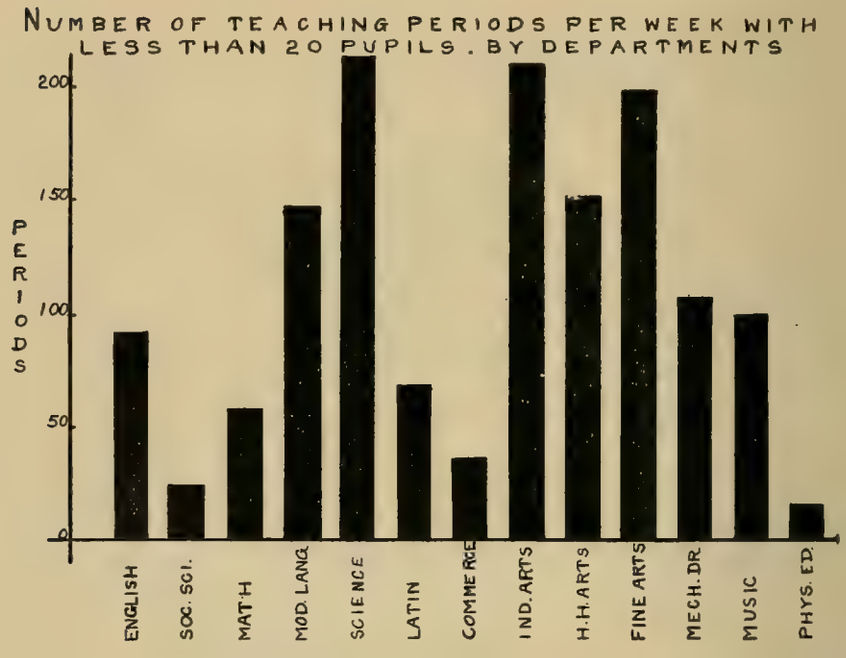


Table XX is a distribution of class-size for all teaching periods with less than 20 pupils by schools. The first row below the totals shows the median size of class for the teaching periods with less than 20 pupils. In other words, 50 per cent of all such teaching periods are between 16 and 20, while the remaining 50 per cent have less than 16 pupils. The average size for all schools is 15.1 pupils. Thus it is safe to say that in general about four or five more pupils per class would bring the 1421 teaching periods up to 20 pupils. By multiplying the 1421 teaching periods by 5 we have 7105 pupil-periods per week. This represents the number necessary to bring all classes up to the requirement of 20 pupils if properly distributed. If this number be divided by 720 pupil-recitations, which is approximately the median number of pupil-recitations per teacher per week (figured on a basis of 50 minute periods) the quotient is 9.8. This is the total teacher excess resultant from teaching periods with less than 20 pupils. In other words, the present staff of teachers in the senior high schools could take care of an additional number of pupils if properly distributed, sufficient to occupy the full time of 9.8 teachers. In the row immediately below the averages for each of the schools, will be found a figure representing the teacher excess for each school. In making these

calculations relating to teacher excess, no account is taken of the fact that 42 per cent of the periods with small classes are to be found in the academic subjects where the average number of pupils is supposed to be 30. Thus the figures arrived at in the table may be considered quite conservative.

TABLE XX

DISTRIBUTION OF TEACHING PERIODS PER WEEK WITH LESS THAN 20 PUPILS BY SCHOOLS

Number of Pupils	*Number of Periods*							
	Balboa	*Galileo*	*Girls*	*Commerce*	*Lowell*	*Mission*	*Polytechnic*	*Total*
19	—	8	39	5	17	42	60	171
18	—	52	27	5	17	69	40	210
17	10	40	15	5	27	35	80	212
16	10	16	25	5	20	52	30	158
15	—	55	29	5	28	15	64	196
14	—	24	22	—	9	10	47	112
13	10	28	7	—	3	25	35	108
12	—	36	5	—	4	—	18	63
11	—	20	7	—	4	5	5	41
10	—	16	15	—	4	10	35	80
9	—	4	—	—	—	5	—	9
8	—	—	—	—	10	—	5	15
7	—	8	—	—	—	—	5	13
6	—	4	—	—	—	—	5	9
5	—	—	—	—	8	—	—	8
4	—	—	—	—	12	—	—	12
3	—	4	—	—	—	—	—	4
Total	30	315	191	25	163	268	429	1421
Median	16	15	16	17	16	17	15	16
Average	15.3	14.3	15.7	17.0	14.1	16.3	15.1	15.1
Teacher Excess	.2	2.5	1.1	.1	1.3	1.4	2.9	9.8

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OFFICE OF THE SUPERINTENDENT

DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
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THE MENTAL ABILITY OF PUPILS ENTERING THE FIRST GRADE AS MEASURED BY THE PINTNER-CUNNINGHAM GROUP MENTAL TEST

Bulletin 16
April, 1930

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS: DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
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THE MENTAL ABILITY OF PUPILS ENTERING THE FIRST GRADE AS MEASURED BY THE PINTNER-CUNNINGHAM GROUP MENTAL TEST

For the past five years the Pintner-Cunningham Test has been given to all kindergarten pupils prior to first grade entrance and to all non-kindergarten pupils upon entering the first grade. This test is given for the following purposes:

1. To facilitate an early homogeneous grouping for instructional purposes.

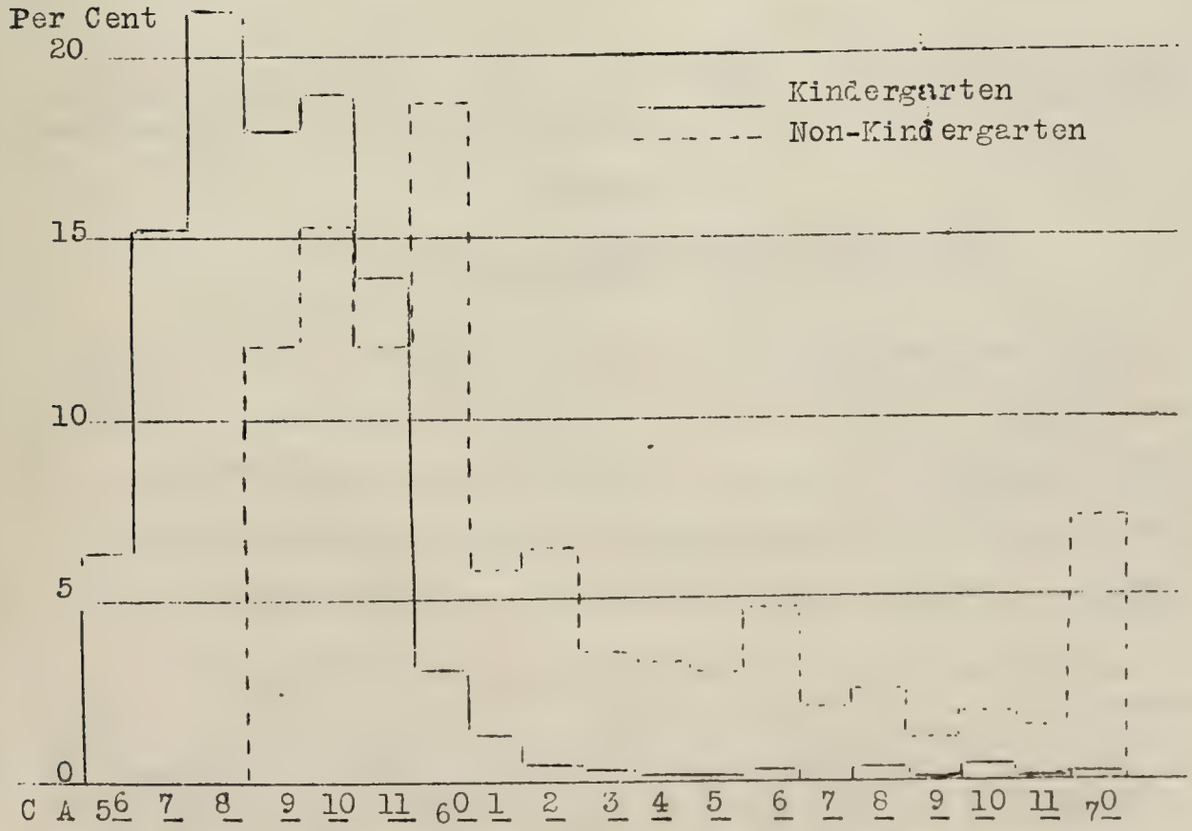
2. To call attention to pupils who deviate greatly from normal and are eligible to special educational treatment.

On the basis of [1] a study recently made by Mary Loretta Dougherty, Ph.D. the Pintner-Cunningham Test surpasses other primary group intelligence tests for the purposes stated above.

The purpose of the present study is to determine whether or not the results of the Pintner-Cunningham Tests are affected by kindergarten training and if so, to what extent. The following groups of pupils were tested.

Group	Training	Number
A	Three terms kindergarten	189
B	Two terms kindergarten	254
C	One term kindergarten	557
D	No kindergarten	577
	Total	1577

FIGURE I



DISTRIBUTION OF CHRONOLOGICAL AGES - KINDERGARTEN AND NON-KINDERGARTEN PUPILS AT ADMINISTRATION OF THE PINTNER-CUNNINGHAM TEST

- - - - - - - - - -

1. Mary Loretta Dougherty--A Comparative Study of Nine Group Tests of Intelligence for Primary Grades. Study [illegible] Press, 1928 - Baltimore

The test was administered to the kindergarten pupils in November 1929 and to the first grade in January 1930. In order to include all pupils who would be eligible to the first grade in January the minimum age was set at 5 years 6 months, 5 years 9 months being the age required for first grade entrance. Figure I shows the difference in range of chronological age at the time of the test. The solid line shows the distribution of kindergarten ages while the broken line represents the non-kindergarten ages at the time the test was given. The median chronological age of the kindergarten group is 5 years 9.4 months, while that of the non-kindergarten is 6 years .6 months, a difference of 3.2 months. This difference is consistent with the time interval elapsing between the two tests and the minimum ages of the pupils included. While the foregoing statement would indicate that at the time of first grade entrance these pupils are approximately the same age a more careful observation of Figure I shows that the non-kindergarten group includes a larger number of older pupils than the kindergarten group. This is also to be expected as it is the policy of the kindergarten to advance the pupils to the first grade as they reach the required age. The following comparison of the medians and upper and lower quartiles of the two groups emphasizes this point.

TABLE I

CHRONOLOGICAL AGES OF KINDERGARTEN AND NON-KINDERGARTEN PUPILS

Group	Q1	Median	Q3
Non-Kindergarten	70.8 mos.	72.6 mos.	75.0 mos
Kindergarten	68.1 mos.	69.4 mos.	70.8 mos.
Difference	2.7 mos.	3.2 mos	4.2 mos

The fact that a greater number of older pupils exists in the non-kindergarten group is also shown by a comparison of the medians and means of the two groups.

TABLE II

CHRONOLOGICAL AGES OF KINDERGARTEN AND NON-KINDERGARTEN PUPILS COMPARED

	Non-Kindergarten	Kindergarten	Diff
Mean C.A.	73.6 mos.	69.1 mos.	4.5 mos.
Median C.A.	72.6 mos.	69.4 mos.	3.2 mos.
Difference	1.0 mos.	-.3 mos.	1.3 mos.

The above comparison shows that when the means and median of the two groups are compared a difference of 1.3 months exists. That is, the older pupils in the non-kindergarten group influence the central tendency of the group to the degree of one month while the presence of younger pupils in the kindergarten group reduces the central tendency by .3 month.

By separating the kindergarten group into those who have attended 1 term, 2 terms and 3 terms a negligible difference is found to exist in the ages of the three groups, as shown by the following table.

TABLE III

CHRONOLOGICAL AGES OF PUPILS ATTENDING KINDERGARTEN 1, 2 AND 3 TERMS

	1 Term K	2 Terms K	3 Terms K	Total
Q_1	68.0 mos.	68.5 mos.	68.2 mos.	68.1 mos.
Median	69.2 mos.	69.7 mos.	69.7 mos.	69.4 mos.
Q_3	70.7 mos.	70.8 mos.	70.9 mos.	70.8 mos.
Q	1.35 Mos.	1.15 mos.	1.35 mos.	1.35 mos.

Hence in considering the results of the tests which were given, the following facts must be kept in mind regarding the chronological ages of the pupils tested:

1. At the time the test was given the kindergarten pupils were on the average 3.2 months younger than the pupils who took thetest upon entering the first grade.

2. That after an adjustment of three months has been made on the kindergarten group the differences in the upper and lower quartiles show the non-kindergarten group to have considerably more older pupils and fewer extremely young pupils.

3. That the number of terms spent in kindergarten does not influence the age of first grade entrance.

Figure II which follows shows the general distribution of mental ages for both kindergarten and non-kindergarten groups. The groups show great similarity in both spread and central tendency. The median of the kindergarten group exceeds that of the non-kindergarten group by .8 month. This difference in itself is probably not significant, however, keeping in mind the ages of the pupils, the slight superiority shown by pupils approximately 3 months younger, increases its significance. The table below also emphasizes this point.

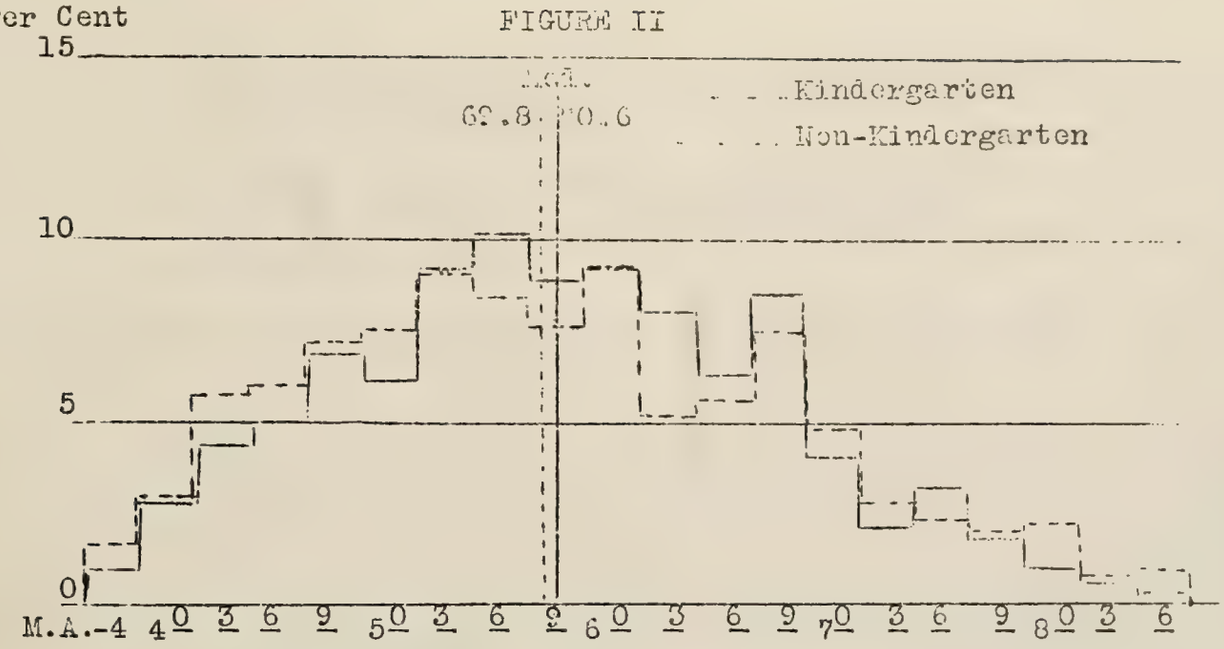
TABLE IV

MEDIAN CHRONOLOGICAL AND MENTAL AGES FOR KINDERGARTEN AND NON-KINDERGARTEN PUPILS

	Med. C.A.	Med. M.A.	Diff.
Non-Kindergarten	72.6 mos.	69.8 mos.	2.8 mos.
Kindergarten	69.4 mos.	70.6 mos.	1.2 mos.
Difference	3.2 mos.	-.8 mos.	

The above table shows that pupils who have been in kindergarten have a median mental age 1.2 months higher than their median chronological age, while those who have had no kindergarten training fail to reach their median chronological age by 2.8 months. It also shows that at the time of the test the non-kindergarten group was 3.2 months older but that the kindergarten group median mental age exceeded theirs by .8 month. On the basis of the above facts, it may be said that the kindergarten group is superior to the other by more than three months.

FIGURE II



DISTRIBUTION OF MENTAL AGES
KINDERGARTEN AND NON-KINDERGARTEN PUPILS
PINTNER-CUNNINGHAM GROUP MENTAL TEST

- - - - - - - -

The tabulation which follows shows the results of the test for the groups when length of kindergarten training is considered.

TABLE V
MEDIAN MENTAL AGES OF PUPILS SPENDING
1 TERM, 2 TERMS AND 3 TERMS IN KINDERGARTEN
COMPARED WITH NON-KINDERGARTEN

	3 Terms K	2 Terms K	1 Term K	Total K	Non-K
Q_1	62.4	63.3	61.1	62.5	60.7
M	70.1	71.6	70.3	70.6	69.8
Q_3	79.9	79.5	79.1	79.6	80.6
Q	8.75	8.10	9.0	8.5	9.9

The fact that the second and third terms in kindergarten do not affect the results of the test to any marked degree is shown in the above tabulation. The range of abilities in each group is practically the same regardless of the length of time spent in kindergarten.

The following conclusions are based on the foregoing data, together with a consideration of the nature of the Pintner-Cunningham Test and the distribution of kindergarten training.

1. Pupils who have been in kindergarten one term or longer exceed pupils who have not been in kindergarten by approximately three months mental ability as determined by the Pintner Cunningham Mental Test.

2. Pupils who have been in kindergarten two terms or three terms do not surpass those who have attended only one term.

3. The slight superiority shown by kindergarten pupils is more likely to be due to the effect of kindergarten training than native ability for:

   a. The Pintner-Cunningham Test is largely a test of focusing attention and following instructions. Kindergarten training undoubtedly improves these abilities.

b. The use of a crayon which the test requires is more familiar to kindergarten pupils than those who have not attended kindergarten.

c. The general school situation is more familiar to pupils who have been in kindergarten than to those without kindergarten training who are entering the first grade.

4. The above conclusions are in no way invalidated because of selectivity of kindergarten training for:

a. Kindergartens exist in every section of the city of San Francisco.

b. The median enrollment in kindergarten is 52.7 per cent of first grade attendance.

c. The interquartile range in kindergarten attendance is from 45 per cent to 65.5 per cent of first grade attendance.

d. Schools representative of every social and economic level are found in each quartile.

5. The consistency with which the Pintner Cunningham measures the various groups emphasizes its desirability as a test for pupils entering the first grade.

6. The fact that a median increase of three months is possible through kindergarten training is not significant, as the same factors which produced the increase will unquestionably function on those pupils who spend a short time in the first grade.

Diagram I shows a distr
cording to chronological age and ..
of pupils represented. These 175 pup.
divided into 5 sections of 35 pupils e.
more advantageous to place 40 students i
ability and 30 pupils in the two groups o
heavy lines on the diagram show suitable di.
pupils may be placed.

In practice, it is convenient to as
number and place these numbers in the proper p.
instead of using tally marks. The task of loca
who should be assigned to each section becomes n
the use of this procedure.

A second method which is easier to admin
placing pupil record cards with the necessary data
in the same position that the tally marks or numbers
placed on a diagram. The cards in the several sectio.
table are then placed together and form the roll for th.
sections.

In arithmetic the classification may be effected
similar manner by substituting arithmetic age for reading ag
scatter-diagram.

Any system of classification must be flexible. If a
child is unable to do the work of the group in which he is placed,
or appears to be able to do better work than that of the group, he
should be reclassified on the basis of teacher judgment.

After such a plan is inaugurated and the pupils classified,
in succeeding semesters the classification of pupils promoted from
one grade to the next may be classified in the same group as they
were in their former grade, with the exception of those to be re-
classified according to teacher judgment. New data will be necessary
only for new students entering the school for the first time. The
use of standard tests in junior high school subjects and of intel-
ligence tests should prove advantageous for reclassification.
However, favorable results should be obtained by the use of the data
obtained at the beginning of the low 7 grade for a basic classifica-
tion and by the use of teacher judgment for reclassification.

SAN FRANCISCO PUBLIC SCHOOLS
OFFICE OF THE SUPERINTENDENT

DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building Page and Gough Streets

G A R F I E L D S C H O O L S U R V E Y

I. Social Survey

II. Progress of Pupils Through the Grades

III. Pupil Achievement

IV. Summary and Recommendations

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Bulletin No. 18
September, 1930

Superintendent of Schools
Joseph Marr Gwinn

Director
Robert Floyd Gray

Assistants

Richard I. Abraham Lillie Lewin
Charles L. Purviance Ivan R. Waterman

FOREWORD

This survey was undertaken by the Department of Educational Research and Service at the request of Miss Matilda A. Levy, who became principal of the Garfield school at the beginning of the spring semester, 1929-1930. Almost immediately upon entering her work in this school, Miss Levy became convinced that many of the problems confronting the school were of a unique character, and that the most satisfactory solution of these problems could be afforded by means of a school survey.

The principal and faculty of the Garfield school cooperated in every possible way with the Department of Educational Research and Service in the collection of data. The principal and teachers administered and scored all the mental and educational tests used in this survey. Sincere appreciation of the helpful cooperation of the principal and faculty of the Garfield school is herewith expressed by the Department of Educational Research and Service.

Robert F. Gray
Director

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Faculty of the Garfield School

Principal - Miss Matilda A. Levy
Vice-Prin. - Miss Catherine Hanlon

Teachers

Miss Alice Barkley
Miss Doris Bello
Mrs. Josephine Boyle
Miss Angela Butterworth
Miss Alice Comerford
Mrs. Dessie Darvill
Miss Alice Dunning
Miss Edna Greiner
Mrs. Doris Harden
Mrs. Claire Henry
Mrs. Margaret Ivancovich
Miss Agnes Leonard
Miss Florence Lynch
Mrs. Ruth McDonald
Miss Charlotte McKeon
Miss Bernice Meyers
Mrs. Alice Noonan
Miss Kathryn Smyth
Miss May Soule
Miss Olga Von der Lieth
Miss Bertha Widmer

I. SOCIAL SURVEY

A survey of the social situation in which the Garfield pupils live was made in order to arrive at a better understanding of some of the conditions which contribute to the educational problems confronting the Garfield school. The information reported in this section of the survey was secured by means of questionnaires filled out by the Garfield pupils under the immediate direction of their teachers.

A knowledge of the size of family of which pupils are members may aid in arriving at a clearer understanding of certain of the educational problems encountered in the Garfield school. Table I shows the number of members of each of the 448 families represented by pupils in the Garfield school.

TABLE I

NUMBER OF MEMBERS IN FAMILIES REPRESENTED IN GARFIELD SCHOOL

Number in family including parents	Number of Families
2	5
3	77
4	131
5	106
6	59
7	27
8	20
9	14
10	4
11	4
12	-
13	1
Total	448
Average size of family	5

The average number of members in the families tabulated above is 5. The 448 families represented contribute an enrollment of 682 pupils. This is an average of approximately 1.5 pupils per family.

The country of nativity of the parents of the Garfield pupils is an important factor contributing to the educational problems of the school. Table II is a frequency distribution showing the numbers of fathers and mothers born in each country as reported by the questionnaires.

TABLE II

BIRTHPLACES OF FATHERS AND MOTHERS OF GARFIELD PUPILS

Country of Birthplace	Number of Fathers	Number of Mothers	Country of Birthplace	Number of Fathers	Number of Mothers
Italy	328	289	Peru	1	-
United States	44	89	Brazil	1	1
Spain	39	41	Porto Rico	1	-
Mexico	8	7	So. America	-	2
England	-	2	Ireland	-	1
France	2	2	Austria	-	1
Switzerland	1	1	Canada	-	1
Germany	1	-	Poland	-	1
Portugal	1	1	Japan	1	1
			TOTAL	428	440

It will be seen from Table II that 328 of the 428 fathers, or 77 per cent, and 289 of the 440 mothers or 66 per cent, were born in Italy. The fact that such a large proportion of the parents come from foreign countries injects a problem in the Garfield school which makes it quite different from the situation where the large majority of the pupils are of native United State parentage.

Further evidence of the problem confronting the Garfield school is shown in Tables III and IV. Table III shows the language habitually spoken in the home by the family. In the instance that more than one language is used in the home, the one used the majority of the time is the one recorded in Table III. Table IV shows the number of fathers and mothers of Garfield pupils who read and write English.

TABLE III

LANGUAGE HABITUALLY USED IN HOMES OF GARFIELD PUPILS

Language	Number of Homes
Italian	288
English	109
Spanish	47
French	2
Japanese	1
TOTAL	447

TABLE IV

NUMBER OF PARENTS OF GARFIELD PUPILS ABLE TO READ AND WRITE ENGLISH

	Number Able to Read English	Number Unable to Read English	Number Able to Write English	Number Unable to Write English
Fathers	214	198	170	239
Mothers	171	258	150	272
TOTAL	385	456	325	511

The fact that Italian is the language spoken in the majority of the homes and the fact that the majority of the parents are unable to read English and a larger majority are unable to write English, combine to make quite difficult the task of adjusting the Garfield pupils both to the school situation and to American conditions.

The economic situation in the homes of the Garfield pupils is reflected by the occupations of their fathers and mothers. Tables V and VI list the occupations of the fathers and mothers of the Garfield pupils.

TABLE V

OCCUPATIONS OF FATHERS OF GARFIELD PUPILS

A. Unskilled

Occupation	Number	Occupation	Number	Occupation	Number
Factory Hand	56	Berry boat worker	3	Delivery worker	1
Janitor	52	Gardener	3	Dishwasher	1
Fisherman	21	Poultry cleaner	3	Elevator Operator	1
Bootblack	15	Seed Company worker	3	Glassware Maker	1
Laborer	13	Window Washer	3		
Scavenger	12	Bed maker	2	Knife grinder	1
Cigar Factory Worker	9	Dairy Worker	2	Porter	1
Cement Worker	7	Iceman	2	Ragman	1
Taxi or Truck Driver	7	Laundry worker	2	Sack picker	1
		Refinery worker	2	Sack Sewer	1
Packer	5	Stevedore	2	Street worker	1
Cannery Worker	4	Watchman	2	Teamster	1
Fruit Picker	4			Tree Chopper	1
TOTAL					246

B. Semi-skilled

Occupation	Number	Occupation	Number	Occupation	Number
Baker	9	Candy Maker	2	Cleaning and Dyeing Worker	1
Cook	8	Shoemaker	2	Motorman	1
Waiter	5	Blacksmith	1		
Butcher	3				
TOTAL					29

C. Miscellaneous

Occupation	Number	Occupation	Number	Occupation	Number
Farmer	3	Fireman	2	Mailman	2
TOTAL					7

TABLE V (Contd.)

D. Trades and Crafts.

OCCUPATION	NUMBER	OCCUPATION	NUMBER	OCCUPATION	NUMBER
Carpenter	19	Brickgrinder	1	Rope Maker	1
Barber	12	Dry cleaner	1	Stone Cutter	1
Iron Worker	9	Metal Polisher	1	Supt.of Trucks	1
Auto Mechanic	7	Marble Worker	1	Ship Yard Worker	1
Painter	7	Pipe Layer	1		
Plasterer	6	Plumber	1	Tailor	1
Foreman	5	Photographer	1	Tinsmith	1
Machinist	3				
Artificial Limb) Maker)	1	Printer	1	Wire Worker	1
Boilermaker	1				
TOTAL					85

E. Commercial

OCCUPATION	NUMBER	OCCUPATION	NUMBER	OCCUPATION	NUMBER
Fruit store Clerk	8	Hotel Keeper	2	Flower Vendor	1
Groceryman	8	Bookkeeper	2	Ravioli Factory	1
Storekeeper	6	Contractor	2	Soft Drink) Parlor Clerk)	1
Cigar store Clerk	4	Restaurateur	2	Undertaker	1
Clerk	8	Banker	1	Candy store Prop.	1
Salesman	3	Buyer	1		
Wholesale Fruit) Co. Worker)	4				
TOTAL					56

F. Semi-Professional

OCCUPATION	NUMBER
Musician	1

G.

TOTALS

Occupation	Number	Per Cent
Unskilled	246	58.0
Semi-skilled	29	6.8
Miscellaneous	7	1.7
Trades & Crafts	85	20.1
Commercial	56	13.2
Semi-Professional	1	.2
TOTAL	424	99.8

Table V shows that of the 424 fathers tabulated, 58 per cent are unskilled workers, 6 per cent are semi-skilled workers, 20 per cent engaged in the trades and crafts, and 13 per cent are in commercial occupations. The skilled and semi-skilled workers compose 64 per cent of the fathers while 36 per cent of the fathers are engaged in occupations rated higher than semi-skilled.

TABLE VI

OCCUPATIONS OF MOTHERS OF GARFIELD PUPILS

OCCUPATION	NUMBER	OCCUPATION	NUMBER	OCCUPATION	NUMBER
Housewife	307	Hotel Maid	3	Clinic Worker	1
Factory Worker	47	Waitress	2	Cook	1
Cigar Worker	19	Houseworker	2	Flower Maker	1
Cannery Worker	10	Matress Maker	2	Forelady	1
Laundry Worker	10	Seamstress	6	Janitress	1
Dressmaker	4	Telephone Opr.	2	Nut Seller	1
Grocery Clerk	4	Cleaning	1	Saleslady	1
Poultry Cleaner	4	Clerk	1	Store Clerk	1
TOTAL					433

Table VI shows that 126, or approximately 30 per cent of the mothers are engaged in some occupation other than that of housewife.

In addition to this number, it is known that many of those listed as housewives engage in various types of work that can be done in the home, such as sewing, and making paper flowers. While information concerning the number of mothers engaging in this type of work was not obtained, the fact that such work is done should be considered in an interpretation of Table VI.

The fact that a majority of the fathers of the Garfield pupils are engaged in unskilled labor and that a large proportion of the mothers work, is an indication of a humble economic status.

Summarizing, it may be said that in general, Garfield pupils are members of rather large families, the majority of them are of foreign parentage and come from homes where some language other than English is usually spoken and where the parents can neither read nor write English. Furthermore, the economic condition in most of the homes is rather low. These conditions impose many limitations upon the educational program for these pupils.

One of the first tasks of the Garfield school is to teach the kindergarten and first grade pupils to understand English. The school time essential to this task is used in bringing the Garfield pupils to a level approximately equivalent to pupils of native parentage in other schools. A further fundamental consideration is the provision of an Americanizing influence - an environment designed to bring the ideals of American life and culture to the lives of these children of foreign parentage.

II PROGRESS OF PUPILS THROUGH THE GRADES.

A bird's-eye view of the progress made by school children through the grades is afforded by an age-grade table. Such a table shows the number of children of each age who are enrolled in any grade. At the same time it shows the distribution of pupils of a given age throughout the different grades. Table VII is an age-grade distribution of the Garfield school as of May 1, 1930.

The extent of acceleration and retardation is clearly revealed by such a distribution. The numbers inlcluded between the heavy black lines of Table VII indicate pupils who are at the normal grade for their age; those to the right and above the heavy lines indicate pupils who are overage or retarded; and those to the left and beneath the heavy lines indicate pupils who are underage or accelerated. A glance at Table VII is sufficient to indicate that pupil acceleration is extremely small while pupil retardation is pronounced in the Garfield school.

The amount and degree of retardation and acceleration is shown in Table VIII, which indicates the percent of pupils of varying degrees of overageness and underageness and at normal age in each of the grades. The data of Table VIII are presented in graphic form in Figure 1.

While the amount of retardation and acceleration varies throughout the several grades, there is no definite trend for the percent of retardation to increase or decrease in the higher grades. On the other hand, the per cent of acceleration is greater in the higher grades. It is significant that a larger percent of boys than girls are retarded. The retardation among the boys is 45.6 per cent, as compared with 34.4 per cent for the girls. When boys and girls are considered together 40.3 per cent are retarded, 52.1 per cent are normal age for their grade, and 7.6 per cent are accelerated. This condition is indicative of a high per cent of failure of pupils to be promoted. Inquiry as to the reasons for failure, and investigation concerning the adaption of the course of study to the needs and abilities of the Garfield pupils are necessary.

TABLE VII

AGE-GRADE DISTRIBUTION FOR THE GARFIELD SCHOOL
MARCH 1, 1930.

GRADE	SEX	AGE	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15½	16	TOTAL
L-1	Boys		1	14	22	7	3	1	1	1															50
	Girls			10	19	6	4		1					1												41
H-1	Boys				9	10	4	4	1			1														29
	Girls				10	19	7	5								1										42
L-2	Boys					8	9	8	7	1	2															35
	Girls					4	8	7	2		1															22
H-2	Boys					1	3	6	15	3	2	1														31
	Girls						4	6	7	3	1	1	1													23
L-3	Boys							4	10	7	1		2	4												28
	Girls							6	7		3	2	1					1							20
H-3	Boys							4	7	5	6	4	1	1		1	1								30
	Girls							3	2	14	4	4	1												28
L-4	Boys								2	10	8	3	1		1	2		2							29
	Girls							1	5	8	7	3	3	2	2										31
H-4	Boys										4	3	3	3	2	2	1				1				19
	Girls											7	2	3		1									13
L-5	Boys										1	1	2	2		2	1	1	1						11
	Girls									1	1	5	3	2	3	1				1					17
H-5	Boys									1	1	7	7	3	5	4	4	1	2	1		1			37
	Girls										4	5	7	5	2	2	2				1				26
L-6	Boys										1			1	2	5	2							1	12
	Girls													5	7	2									15
H-6	Boys												1	3	4	4	3	2	1						18
	Girls												2	3	7	3	3	1	1	2	1	1			
TOTAL	Boys		1	14	31	26	19	27	43	28	26	20	17	17	14	20	12	6	4	1	2	1	1		329
	Girls			10	29	29	23	28	24	26	21	27	20	21	21	10	3	2	1	3	2	1		1	302
	Total		1	24	60	55	42	55	67	54	47	47	37	38	35	30	15	8	5	4	4	2		1	631

TABLE VIII

PER CENT OF GARFIELD PUPILS UNDERAGE, NORMAL AGE, AND OVERAGE
SPRING TERM 1929-1930.

		Per cent Underage				Per Cent Overage.					
		1 or more years	1/2 or more but less than 1 year	Total Under-age	Per Cent Normal Age	Total Overage	1/2 or more but less than 1 year	1 or more but less than 2 years	2 or more but less than 3 years	3 or more but less than 4 years	4 or more years
Low 1	Boys		2.00	2.00	72.00	26.00	20.00	4.00	2.00	--	--
	Girls		--	--	70.73	29.27	24.39	2.44	--	--	2.44
	Total		1.10	1.10	71.43	27.47	21.97	3.30	1.10	--	1.10
High1	Boys		00	--	65.52	34.49	27.59	3.45	3.45	--	--
	Girls		00	--	69.05	30.95	28.57	--	--	--	2.38
	Total		00	--	67.61	32.38	28.18	1.40	1.40	--	1.40
Low 2	Boys			--	48.57	51.43	42.86	8.57	--	--	--
	Girls			--	54.55	45.46	40.91	4.55	--	--	--
	Total			--	50.88	49.12	42.10	7.02	--	--	--
High2	Boys		3.23	3.23	29.03	67.74	58.06	9.68	--	--	--
	Girls		--	--	43.48	56.52	43.48	8.69	4.35	--	--
	Total		1.85	1.85	35.19	62.96	51.85	9.26	1.85	--	--
Low 3	Boys		--	--	50.00	50.00	28.57	7.14	14.29	--	--
	Girls		--	--	65.00	35.00	15.00	15.00	--	--	5.00
	Total		--	--	56.25	43.75	22.92	10.42	8.33	--	2.08
High3	Boys		13.33	13.33	40.00	46.66	33.33	6.67	3.33	3.33	--
	Girls		10.71	10.71	57.14	33.14	28.57	3.57	--	--	--
	Total		12.07	12.07	48.28	39.64	31.03	5.17	1.72	1.72	--
Low 4	Boys		6.90	6.90	62.07	31.04	13.79	3.45	6.90	6.90	--
	Girls		19.35	19.35	48.39	32.25	19.35	12.90	--	--	--
	Total		13.33	13.33	55.00	31.66	16.67	8.33	3.33	3.33	--
High4	Boys		--	--	36.84	63.15	31.58	21.05	5.26	--	5.26
	Girls		--	--	53.85	46.15	38.46	7.69	--	--	--
	Total		--	--	43.75	56.25	34.38	15.63	3.12	--	3.12
Low 5	Boys		9.09	9.09	27.27	63.63	18.18	27.27	18.18	--	--
	Girls		11.76	11.76	47.06	41.17	29.41	5.88	--	5.88	--
	Total		10.71	10.71	39.29	50.00	25.00	14.29	7.14	3.57	--
High5	Boys	2.70	21.62	24.32	27.03	48.64	2[illegible].32	13.51	8.11	2.70	--
	Girls		34.62	34.62	46.15	19.23	15.38	--	--	3.85	--
	Total	1.59	26.98	28.57	34.92	36.50	20.63	7.94	4.76	3.17	--
Low 6	Boys	8.53	--	8.33	25.00	66.66	58.33	--	8.33	--	--
	Girls		--	--	80.00	20.00	13.33	--	--	--	6.67
	Total	3.70	--	3.70	55.56	40.73	33.33	--	3.70	--	3.70
High6	Boys		22.22	22.22	44.44	33.34	27.78	5.56	--	--	--
	Girls		20.83	20.83	41.67	37.50	16.67	12.50	8.33	--	--
	Total		21.43	21.43	42.86	35.71	21.43	9.52	4.76	--	--
TOTAL	Boys	0.61	6.38	6.99	47.42	45.58	31.00	8.21	4.86	1.21	0.30
	Girls		8.28	8.28	57.28	34.43	25.83	5.63	.99	.66	1.32
	Total	0.32	7.29	7.61	52.14	40.25	28.53	6.97	3.01	.95	

PER CENT OF GARFIELD PUPILS
UNDERAGE, NORMAL AGE, AND OVERAGE
SPRING TERM, 1929-30.

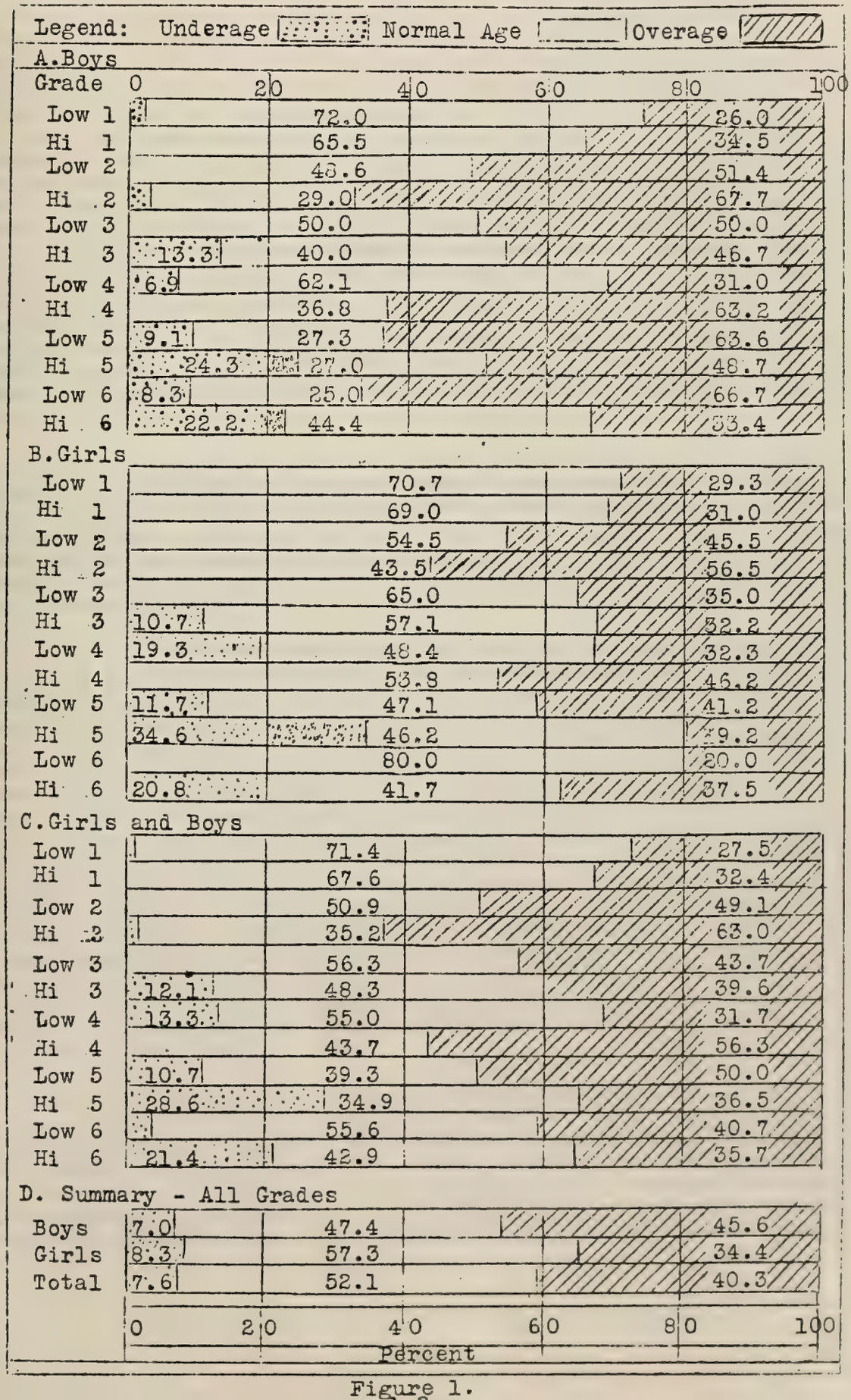

Figure 1.

A more complete picture of the progress of pupils through the grades is afforded by an age-grade-progress study. Overageness is synonomous with retardation and slow progress only in the case of pupils who enter school at or below the normal age; likewise, underageness is synonomous with acceleration and rapid progress only in the case of pupils who entered school at or above normal age. The number of semesters actually spent in school by a pupil of a given grade is the true index of acceleration or retardation. A pupil who has advanced at the rate of one half grade per semester has made normal progress; a pupil advancing at the rate of more than one half grade per semester has made rapid progress and is accelerated; and a pupil who has advanced at a rate less than one half grade per semester has made slow progress and is retarded. Data for making an age-grade-progress study were obtained from the permanent record cards of the Garfield pupils. Each teacher filled out an "Age-Progress Sheet", a copy of which is reproduced on the following page, for the pupils of her class.

Summaries of the "Age-Progress Sheets" showing the progress of the pupils in each grade are presented in Tables IX, X and XI. The numbers included within the squares in these tables indicate pupils who have made normal progress; the numbers above the squares represent accelerated pupils; and the numbers below the squares represent pupils who have failed to be promoted during their school career and are retarded.

It is seen from Table XI that 59 per cent of the Garfield pupils are retarded, and that only 335 per cent have made normal progress and only 7.5 per cent have made rapid progress. The per cent of retardation shown in Tables IX, X and XI is much greater than that shown by the age-grade study and reported in Table VIII. This may be accounted for in two ways. First, normal age for any grade is represented by a span of one year and a pupil could fail to be promoted and still be at age for his grade; second, pupils who enter school under normal age could fail of promotion and still be normal age for grade. Not only is the per cent of retardation extremely high, but a large number of pupils are two or more semesters retarded. Such a high degree of retardation seems a clear indication that the course of study pursued in the Garfield school is too difficult to meet the abilities of the pupils. The effects of an excessive amount of pupil failure can be overcome only by adapting the course of study to the ability of the pupils.

A comparison of Tables IX and X shows that more boys than girls are retarded and fewer boys than girls are accelerated. Unless it can be shown that the Garfield boys actually make inferior achievements to those of the girls this condition cannot be justified. Every effort should be made to determine promotions on the basis of ability and achievement and to rule out other factors that ofttimes influence teachers' marks and promotions.

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

AGE-PROGRESS SHEET

School _____ Grade _____ _____ Term, 19___ 19___

Number of pupils enrolled in grade _____ Boys _____ Girls _____ Total

Age	Number of Terms in School																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	over 18	No record
6																					
6½																					
7																					
7½																					
8																					
8½																					
9																					
9½																					
10																					
10½																					
11																					
11½																					
12																					
12½																					
13																					
13½																					
14																					
14½																					
15																					
15½																					
16& over																					
TOTAL																					

Date _____ Teacher _____

Certified as Correct _____
Principal

TABLE IX.

PROGRESS OF GARFIELD PUPILS BY GRADES: BOYS
March 1, 1930.

Number of Years In School	1st Grade		2nd Grade		3rd Grade		4th Grade		5th Grade		6th Grade		Total
	L	H	L	H	L	H	L	H	L	H	L	H	
Less than ½ year	20												20
½	24	19											43
1	4	4	7										15
1½	1	6	11	5	1								24
2		2	7	11	7	2							29
2½			3	6	7	8	5	1					30
3				3	3	2	4	1					13
3½			2	1	2	5	7	1	2	2			22
4				1	1	2	2	4		2			12
4½					2	1	3	4	2	4	1		17
5						1		1	1	6		1	10
5½							1			3	1	7	12
6										4	2	1	7
6½									1	2	1	3	7
7											1	1	2
7½										1			1
Total	49	31	30	27	23	21	22	12	6	24	6	13	264
Making more than ½ grade per ½ year — No.					1	2	5	2	2	4	1	1	18
Making more than ½ grade per ½ year — Per Cent													6.8%
Making ½ grade per ½ year — No.	20	19	7	5	7	8	4	1	0	4	0	7	82
Making ½ grade per ½ year — Per Cent													31.1%
Making less than ½ grade per ½ year — No.	29	12	23	22	15	11	13	9	4	16	5	5	164
Making less than ½ grade per ½ year — Per Cent													62.1%

TABLE X

PROGRESS OF GARFIELD PUPILS BY GRADES: GIRLS
March 1, 1930

Number of Years in School	1st Grade		2nd Grade		3rd Grade		4th Grade		5th Grade		6th Grade		Total
	L	H	L	H	L	H	L	H	L	H	L	H	
Less than ½ year	17												17
½	20	20											40
1	2	11	9										22
1½	1	7	11	4	1								24
2		3	3	5	4		1						16
2½				6	9	6	4						25
3					2	7	7						16
3½				2	1	6	9	3	3	2			26
4					1	3		6	3	2	1		16
4½				1		1	1	3	2	11	1	3	23
5							1		1	3	5	3	13
5½									1	2	3	4	10
6									2			2	4
6½										1	1	1	3
7													
7½												2	2
8										1			1
Total	40	41	23	18	18	23	23	12	12	22	11	15	258
Making more than ½ grade per ½ year — No.					1		5		3	4	2	6	21
Making more than ½ grade per ½ year — Per Cent													8.2%
Making ½ grade per ½ year — No.	17	20	9	4	4	6	7	3	3	11	5	4	93
Making ½ grade per ½ year — Per Cent													36.0%
Making less than ½ grade per ½ year — No.	23	21	14	14	13	17	11	9	6	7	4	5	144
Making less than ½ grade per ½ year — Per Cent													55.8%

TABLE XI

PROGRESS OF GARFIELD PUPILS BY GRADES: BOYS AND GIRLS
March 1930.

Number of Years in School	1st Grade		2nd Grade		3rd Grade		4th Grade		5th Grade		6th Grade		Total
	L	H	L	H	L	H	L	H	L	H	L	H	
Less than ½ year	37												37
½	44	39											83
1	6	15	16										37
1½	2	13	22	9	2								48
2		5	10	16	11	2	1						45
2½			3	12	16	14	9	1					55
3				3	5	9	11	1					29
3½			2	3	3	11	16	4	5	4			48
4				1	2	5	2	10	3	4	1		28
4½				1	2	2	4	7	4	15	2	3	40
5						1	1	1	2	9	5	4	23
5½							1		1	5	4	11	22
6									2	4	2	3	11
6½									1	3	2	4	10
7											1	1	2
7½										1		2	3
8										1			1
Total	89	72	53	45	41	44	45	24	18	46	17	28	522
Making more than ½ grade per ½ year — No.					2	2	10	2	5		3	7	39
Making more than ½ grade per ½ year — Per Cent													7.5%
Making ½ grade per ½ year — No	37	39	16	9	11	14	11	4	3	15	5	11	175
Making ½ grade per ½ year — Per Cent													33.5%
Making less than ½ grade per ½ year — No	52	33	37	36	28	28	24	18	10	23	9	10	308
Making less than ½ grade per ½ year — Per Cent													59.0%

A study of acceleration and retardation in relation to the age and grade of pupils may be made by classifying pupils in nine divisions as follows:

Underage, Rapid Progress	Underage, Normal Progress	Underage Slow Progress
Normal age Rapid Progress	Normal age Normal Progress	Normal age Slow Progress
Overage Rapid Progress	Overage Normal Progress	Overage Slow Progress

The following interpretations are to be placed upon the nine divisions designated above:

Underage, Rapid Progress -- Indication that pupil has been accelerated.

Underage, Normal Progress-- Indication that pupil entered school under normal age and has kept pace with his class.

Underage, Slow Progress -- Indication that pupil entered school under state age and failed of promotion.

Normal age, Rapid Progress- Indicates pupil who entered school at or above normal age, but was accelerated and is now in normal grade for age.

Normal age, Normal Progress-Indication that pupil entered school at normal age and has been promoted regularly.

Normal age, Slow Progress - Indication that pupil entered school at or below normal age but failed of promotion.

Overage, Rapid Progress -- Indication that pupil entered school above normal age and has been accelerated, but not sufficiently accelerated to be at grade for his age.

Overage, Normal Progress -- Indication that pupil entered school above normal age and has been promoted regularly.

Overage, Slow Progress -- Indication that pupil has failed of promotion.

Table VI shows the number of pupils who fall into each of the above classifications for each half-grade. A summary showing the number and per cent of pupils in each classification is presented in Table VII.

The fact that 25.7 per cent of the pupils fall in the classification "normal age-slow progress" indicates that a large number of pupils are entering the first grade below normal age for that grade. An analysis of the grade progress sheets shows that 59 of the 134 pupils entered school before the age of six years, the age of six being defined as from 5 years 9 months to 6 years 2 months. Only 9 of these 59 pupils have made normal or rapid progress while the remainder have failed of promotion and become retarded. This would seem to indicate that children entering the Garfield school below the normal age have little chance of being promoted regularly through the grades. A careful check to insure that no pupils under six years of age are allowed to enter the first grade (with the possible exception of unusually bright children) should result in materially reducing the amount of retardation in the Garfield school.

TABLE XII

PROGRESS OF GARFIELD PUPILS THROUGH THE GRADES

Grade and Sex	Under Age			Normal Age			Over Age			Total
	Rapid Prog-ress	Normal Prog-ress	Slow Prog-ress	Rapid Prog-ress	Normal Prog-ress	Slow Prog-ress	Rapid Prog-ress	Normal Prog-ress	Slow Prog-ress	
Boys					16	20		4	9	49
L1 Girls					14	13		3	10	40
Total					30	33		7	19	89
Boys					15	3		4	9	31
H1 Girls					16	9		4	12	41
Total					31	12		8	21	72
Boys					6	6		1	17	30
L2 Girls					7	7		2	7	23
Total					13	13		3	24	53
Boys		1			3	6		1	16	27
H2 Girls					3	8		1	6	18
Total		1			6	14		2	22	45
Boys				1	7	5			10	23
L3 Girls				1	3	6		1	7	18
Total				2	10	11		1	17	41
Boys		1		2	7	1			10	21
H3 Girls					4	9		2	8	23
Total		1		2	11	10		2	18	44
Boys	3			2	4	6			7	22
L4 Girls	3			2	6	7		1	4	23
Total	6			4	10	13		1	11	45
Boys	1			1		4		1	5	12
H4 Girls					2	6		1	3	12
Total	1			1	2	10		2	8	24
Boys	1			1		1			3	6
L5 Girls	2	1		1	2	3			3	12
Total	3	1		2	2	4			6	18
Boys	4	1			2	6		1	10	24
H5 Girls	4	1			9	2		1	5	22
Total	8	2			11	8		2	15	46
Boys	1								5	6
L6 Girls				2	5	3			1	11
Total	1			2	5	3			6	17
Boys	1				7	2			3	13
H6 Girls	4			1	4	1	1		4	15
Total	5			1	11	3	1		7	28
Total Boys	11	3	0	7	67	60	0	12	104	264
Total Girls	13	2	0	7	75	74	1	16	70	258
Total Total	24	5	0	14	142	134	1	28	174	522

TABLE XIII

PROGRESS OF GARFIELD PUPILS THROUGH THE GRADES: SUMMARY

	Rapid Progress	Normal Progress	Slow Progress
Under-age	24 (4.6%)	5 (0.9%)	0
Normal Age	14 (2.7%)	142 (27.2%)	134 (25.7%)
Over-age	1 (0.2%)	28 (5.4%)	174 (33.3%)

III. PUPIL ACHIEVEMENT IN THE GARFIELD SCHOOL

Standarized mental and educational tests were used to measure and evaluate the school achievement of the Garfield school pupils. Table XIV lists the tests which were used in each grade.

TABLE XIV

TESTS USED IN GARFIELD ACHIEVEMENT SURVEY

Grade	Mental Test	Educational Test
1	Detroit Advanced First Grade Intelligence Test	Detroit Word Recognition Gates - Type I
2	Detroit Primary Intelligence Test	Gates - Types I & II
3	" "	Stanford Primary - Reading, Arithmetic and spelling
4	" "	" " "
5	" "	Stanford Advanced-" Reading, Arithmetic and Spelling.
6	National Intelligence Test	" " "

The results of the tests were expressed as mental ages and subject ages. These results are shown in tabular form similar to age-grade distributions in Tables XV to XIX.

It is evident from Tables XV to XIX that there is a wide overlapping in mental abilities and educational achievements between adjoining half grades. For example, one pupil in thehigh fifth grade has a mental age equaled by three pupils in the low first grade and pupils with mental ages of 9 and 9½ years are found distributed from the high first to the high sixth grades. Pupils with an arithmetic age of 9½ years are distributed from the low third to high sixth grades. Pupils with an educational age of 10 years are found distributed from the low third to high sixth grades. Inspection of Tables XV to XIX reveals very clearly the fact pupils in the Garfield school are not classified in the grades according to either mental or subject achievement. The wide variance of abilities in all the grades mades difficult indeed the problem of adjusting the course of

TABLE XV.

MENTAL ABILITY OF BOYS AND GIRLS OF GARFIELD SCHOOL BY HALF GRADES

Grade	Mental Age	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	Total
L-1	Boys	3	9	11	4	6	6	2	2													43
	Girls	1	6	5	8	1	9	3	1													34
H-1	Boys		2	1	1	5	3	8	3	3	1											27
	Girls			2	4	7	11	7	2	2	1											36
L-2	Boys		1	1	2	7	9	5	3	2												30
	Girls		1		4	4	3	7	2		1											22
H-2	Boys					2	3	7	10	3	2											27
	Girls				2	2	2	4	7	1	2											20
L-3	Boys				1	3	2	4	7	2	2											21
	Girls				2	1	4	2	4	3	1	1										18
H-3	Boys						1	4	6	8	4	3										26
	Girls					1	3	2	6	6	3	2										23
L-4	Boys							1	4	5	4	5	2	2								23
	Girls						2	1	3	10	2	5	1		1							25
H-4	Boys								1	3	1	6	2	3	2							18
	Girls									2	2	0	3	3	0							10
L-5	Boys					1			1	2		3										7
	Girls									2	3	4		3	1							13
H-5	Boys										3	3	7	4	7	6	1					31
	Girls								1	1	1	5	4	3	3	2		2				22
L-6	Boys									2	1	1	3	1	2			1				11
	Girls										1	1	4	1	3	1	1	1				13
H-6	Boys										1	1	2		3	4		2			2	15
	Girls									1	1				5	6	2	3	2			20
Total L_3	Boys	3	12	13	8	24	24	31	37	30	19	24	16	13	14	10	1	3			2	194
	Girls	1	7	7	20	16	34	26	26	26	18	18	12	10	13	9	3	6	2	2		256
	Total	4	19	20	28	40	58	57	63	56	37	42	28	23	27	19	4	9	2	2	2	450

TABLE XVI

READING ABILITY OF BOYS AND GIRLS OF GARFIELD SCHOOL BY HALF GRADES

Grade	Reading Age	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	Total
L-1	Boys	26	10	4	3															43
	Girls	8	11	12	3															34
H-1	Boys		1	8	13	4		1												27
	Girls	3		5	14	12	1	1												36
L-2	Boys		3	12	9	2	2	2												30
	Girls	1		4	10	4	2		1											22
H-2	Boys	1	1	2	4	4	5	11												27
	Girls	1		1	1	10	3	2	2											20
L-3	Boys	5		4	2	3	3		2	2										21
	Girls	1	1	2	2	2	5	2	3											18
H-3	Boys	1		4	4	3	5	3	5	1										26
	Girls		1	1	3	7	2	2	7											23
L-4	Boys	1			1	1	4	2	4	6	3	1								23
	Girls					3	4	3	4	9	2									25
H-4	Boys		1	1		4	2	1	3	6										18
	Girls						2	1	4	2	1									10
L-5	Boys	1							1	1	3			1						7
	Girls							3		4	5	1								13
H-5	Boys	1						1	3	4	10	3		5	2	3	1			55
	Girls							1	2	2	8			5	3	1				22
L-6	Boys								1	1	2	3		2	1	1				11
	Girls									2	2	3		3	3					13
H-6	Boys									1		1		7	4	4	1			18
	Girls									1	1	3		2	6	3	2	1	1	20
Total	Boys	36	16	35	36	21	21	21	19	22	18	8		15	7	8	2			264
	Girls	13	13	25	33	38	19	15	23	20	19	7		10	12	4	2	1	1	236
	Total	49	29	60	69	59	40	36	41	42	37	15		25	19	12	4	1	1	500

TABLE XVII

ARITHMETIC ABILITY OF BOYS AND GIRLS OF GARFIELD SCHOOL BY HALF GRADES

Grade	Boys/Girls	Age	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	Total
L-3	Boys		2	1		1	1	7	7	2									21
	Girls				1	1	3	8	2	3									18
H-3	Boys						3	5	9	6	3								26
	Girls						1	6	8	5	3								23
L-4	Boys							1	1	9	6	4	2						23
	Girls						2		3	9	8	2	1						25
H-4	Boys								1	3	8	5	1						18
	Girls								2	3	5								10
L-5	Boys								1		4	1	1						7
	Girls								1	5	5	2							13
H-5	Boys							1		1	3	5	13	7	3				33
	Girls								1		3	5	7	3	3				22
L-6	Boys										2	1	4	4					11
	Girls										1	2	6	2	2				13
H-6	Boys										1	1	5	3	1	6	1		18
	Girls									1	1		8	9		4	1	2	26
TOTAL	Boys		2	1		1	4	14	19	21	27	17	26	14	4	6	1		157
	Girls				1	1	6	14	17	26	26	11	16	14	5	4	1	2	144
	Total		2	1	1	2	10	28	36	47	53	28	42	28	9	10	2	2	301

TABLE XVIII

SPELLING ABILITY OF BOYS AND GIRLS OF GARFIELD SCHOOL BY HALF GRADES

Grade	Spelling Age	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	15½	16	Total
L-3	Boys	9	1	2	2	2	0	1	2	2											21
	Girls	1	0	3	4	4	3	2	1	0											18
H-3	Boys	1	2	2	4	4	4	5	0	3	1										26
	Girls	0	3	2	1	4	3	2	4	2	2										23
L-4	Boys		3			8	4	3	0	3	1	1									23
	Girls			1	1	6	3	2	6	5	1										25
H-4	Boys	1	2	3	2	1	1	2	4	2											18
	Girls			1	2	1	1	3	1		1										10
L-5	Boys					1	1	1	1	1		1	1								7
	Girls					1		1	5	2	2	2									13
H-5	Boys					2	5	2	3	4	8	3	3	2		1					33
	Girls					1		4	4	2	2	5	1	1	2						22
L-6	Boys								1	5	1	1			1	1		1			11
	Girls										5		3	2	1	1	1				13
H-6	Boys									1	5	4	3	2	2	1					18
	Girls									1	4	1	5	4	1	1	1		1	1	20
TOTAL	Boys	11	8	7	8	18	15	14	11	21	16	10	7	4	3	3		1			157
	Girls	1	3	7	8	17	10	14	21	12	17	8	9	7	4	2	2		1	1	144
	Total	12	11	14	16	35	25	28	32	33	33	18	16	11	7	5	2	1	1	1	301

TABLE XIX

EDUCATIONAL ACHIEVEMENT OF BOYS AND GIRLS OF GARFIELD SCHOOL BY HALF GRADES

Grade	Educational Age	5½	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14½	Total
L-3	Boys	2	2	3	2	5	2	2	2	1									21
	Girls		1	1	3	3	4	5	1										18
H-3	Boys				1	8	7	6	3	1									26
	Girls			1		3	9	6	2	2									23
L-4	Boys			1			3	3	9	4	3								22
	Girls					1	3	7	6	7	1								25
H-4	Boys					2	2	4	3	6	1								18
	Girls						2	2	4	2									10
L-5	Boys						1	1		2	2	1							7
	Girls							1	2	7	3								13
H-5	Boys						1	1	4	5	7	8	4	2		1			33
	Girls								3	6	4	4	5						22
L-6	Boys									2	2	3	2	2					11
	Girls									1	3	2	4	3					13
H-6	Boys										3	3	4	6	2				18
	Girls									1		3	9	2	2	1	1	1	20
TOTAL	Boys	2	2	4	3	15	16	17	21	21	16	15	10	10	2	1	-	-	155
	Girls	-	1	2	3	7	18	21	13	26	11	9	18	5	2	1	1	1	144
	Total	2	3	6	6	22	34	38	39	47	29	24	28	15	4	2	1	1	301

study to the abilities of the pupils in the classroom.

The data of Tables XV to XIX are summarized in Table XX in a form which shows the number and per cent of pupils below normal age, at normal age, and above normal age for their grade using mental and subject ages as the criteria. On the basis of mental ability 38.2 per cent of the Garfield pupils have mental abilities above normal for their grade placement, 34.6 per cent have reading abilities above normal for their grade, 30.9 per cent have arithmetic ability above normal for their grade, 20.6 per cent have spelling abilities above normal for their grade, and approximately 20 per cent are in a grade below that in which their educational attainment would warrant their being placed. On the other hand 23.5 per cent of the pupils have mental abilities below normal for their grade and approximately 30 per cent of the pupils are placed in a grade beyond that to which their educational achievement would entitle them. Thirty-eight per cent of the pupils are of normal mental age for their grade while 50 per cent of the pupils are of normal educational age for their grade.

A comparison of the results of the mental and educational tests with the age-grade and age-grade progress studies seem to indicate that the excessive degree of retardation among the Garfield pupils is not warranted on the basis of their school achievement. On the other hand, if mental ability and school achievement are the criteria of grade placement, there are from twenty to thirty per cent of the pupils who should be advanced. It is most evident that failing pupils of promotion has not resulted in classigying pupils in grades even approximately on the basis of mental ability or ability in any of the subjects tested.

TABLE XX

NUMBER AND PER CENT OF PUPILS, BELOW NORMAL, NORMAL, AND ABOVE NORMAL ON BASIS OF MENTAL ABILITY AND SUBJECT ACHIEVEMENT IN RELATION TO GRADE PLACEMENT

A. Mental Age and Grade	Below Normal age for Grade		Normal Age for Grade		Above Normal Age for Grade	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Boys	67	23.6	112	39.4	105	37.0
Girls	60	28.4	93	37.1	101	39.5
Total	127	25.5	207	38.8	206	39.2
B. Reading Age & Grade						
Boys	62	21.8	136	47.9	86	30.3
Girls	51	19.9	104	40.6	101	39.5
Total	113	20.9	240	44.5	187	34.6
C. Arithmetic Age & Grade						
Boys	25	15.9	78	49.7	54	34.4
Girls	24	16.7	81	56.2	39	27.1
Total	49	16.3	159	52.8	93	30.9
D. Spelling Age & Grade						
Boys	91	58.0	38	24.2	28	17.8
Girls	66	45.8	44	30.6	34	23.6
Total	157	52.2	82	27.2	62	20.6
E. Educational Age & Grade						
Boys	53	33.7	75	47.8	29	18.5
Girls	37	25.7	76	52.8	31	21.5
Total	90	29.9	151	50.2	60	19.9

Table XXI presents the median chronological, mental, subject and educational age for the boys and girls of each half- grade. The Garfield pupils on the average are below normal in mental ability and in school achievement. This holds true in each half grade with but two exceptions; namely: the median mental age and median reading age of the high first grade exceeds the median chronological age and the median arithmetic age of the low fourth grade exceeds the median chronological age. On the whole the educational accomplishment in the Garfield school is about what is to be expected from pupils with their mental abilities. The accomplishment in spelling, however, is decidely lower than that in either reading or arithmetic. In nearly every grade the median spelling age is not only less than the median chronological age but also less than the median mental age. This inferior accomplishment indicates the need of increased attention to the teaching of spelling.

The accomplishment of the Garfield pupils in arithmetic is greater than their accomplishment in reading in the third and fourth grades; in the low fifth, the accomplishment in reading is greater and in the higher grades the pupils have made approximately the same achievement in reading and arithmetic. The fact that approximately 90 per cent of the parents of Garfield pupils were born in Italy and the fact that a majority of the parents speak but little English would lead us to expect a somewhat inferior accomplishment in reading. On the other hand, arithmetic is much less dependent upon ability to speak and understand English than is reading. This fact will account for superior accomplishments in arithmetic. Just what is responsible for the superior accomplishment in reading in the low fifth grade and for the equal accomplishments in reading and arithmetic in the higher grades would be difficult to determine. It is quite likely than an increased effort on the part of the teacher to overcome the initial language handicap of the Garfield pupils of foreign parentage has resulted placing less emphasis upon arithmetic in the higher grades.

The median chronological age of the boys is higher than that of the girls in every half grade except the low first. This fact would normally indicate that higher achievements could be expected from the boys than from the girls. In the present situation, however, the median mental age of the boys is higher than that of the girls in but one-half of the grades, and in every case the differences are not great. These facts would lead us to expect approximately equal achievements from the boys and girls and such is found to be the case. Since the median chronological age of the boys is higher than that of the girls and the median mental and educational ages of the boys and girls are approximately equal on the average, the somewhat higher degree of retardation among the boys seems to have been justified.

TABLE XXI

MEDIAN CHRONOLOGICAL AGE, MENTAL AGE, AND SUBJECT AGE OF GARFIELD BOYS AND GIRLS BY HALF GRADES.

Grade	Sex	Chron. Age Yrs.Mos.	Mental Age Yrs.Mos.	Reading Age Yrs.Mos.	Arith. Age Yrs.Mos.	Spelling Age Yrs.Mos.	Educational Age Yrs. Mos.
L-1	Boys	6-7	6-1	6-6			
	Girls	6-9	6-5	6-6			
	Total	6-8	6-4	6-6			
H-1	Boys	7-5	7-11	7-4			
	Girls	7-2	7-6	7-7			
	Total	7-2	7-7	7-5			
L-2	Boys	8-1	7-4	7-3			
	Girls	7-11	7-7	7-7			
	Total	7-12	7-5	7-5			
H-2	Boys	8-6	8-3	8-7			
	Girls	8-6	8-3	8-1			
	Total	8-6	8-3	8-3			
L-3	Boys	8-10	8-3	7-7	8-7	8-9	7-10
	Girls	8-8	8-1	8-4	8-7	7-12	8-4
	Total	8-9	8-3	7-11	8-7	7-5	8-1
H-3	Boys	9-6	8-10	8-4	9-1	8-3	8-6
	Girls	9-4	8-8	8-2	9-1	8-6	8-7
	Total	9-4	8-9	8-3	9-1	8-6	8-6
L-4	Boys	9-7	9-7	9-6	9-9	8-3	9-4
	Girls	9-6	8-11	9-5	9-8	8-11	9-6
	Total	9-7	9-1	9-6	9-8	8-7	9-5
H-4	Boys	10-7	10-1	9-3	10-1	8-1	9-4
	Girls	10-3	10-6	9-6	9-9	8-9	9-4
	Total	10-4	10-2	9-5	9-10	8-4	9-4
L-5	Boys	11-0	9-1	10-3	9-11	9-4	9-11
	Girls	10-6	9-11	10-2	9-9	9-8	9-11
	Total	10-8	9-10	10-3	9-10	9-8	9-11
H-5	Boys	11-3	10-11	10-8	10-8	10-4	10-7
	Girls	11-0	10-8	10-7	10-7	10-3	10-7
	Total	11-1	10-9	10-7	10-7	10-3	10-7
L-6	Boys	12-3	10-4	11-1	11-1	10-3	10-11
	Girls	11-6	11-1	11-1	11-1	11-7	11-1
	Total	11-9	10-9	11-1	11-1	10-12	11-0
H-6	Boys	12-1	11-4	11-9	11-8	10-12	11-7
	Girls	11-12	11-11	11-10	11-7	11-9	11-9
	Total	12-1	11-8	11-10	11-7	11-5	11-8

IV. SUMMARY AND RECOMMENDATIONS

Summary

1. The majority of the Garfield pupils are of foreign parentage, and come from homes where some other language than English is usually spoken, and have parents who can neither read nor write the English language.

2. Retardation is excessive in the Garfield School. Aproximately 60 per cent of the pupils have made slower than normal progress through the grades.

3. The Garfield pupils on the average are below normal in mental ability and school achievement. Their mental ability is slightly higher in most of the grades that their school achievement. This lower school achievement may be attributable to the fact that so many of the Garfield pupils enter school with a severe language handicap.

4. The school achievement of the Garfield pupils is higher in arithmetic than in reading in the third and fourth grades. In the fifth and sixth grades their achievement in reading is equal to or higher than that in arithmetic.

5. The spelling ability of the Garfield pupils is lower than their mental, reading or arithmetic abilities from the third through the sixth grade.

6. The Garfield pupils of each half grade are distributed over an extremely wide range of chronological age, mental ability and school achievement. The overlapping of age, mental ability and school achievement between grades is very great.

Recommendations

1. One of the major problems in the Garfield School is that of adapting the course of study to the abilities of the pupils, and eliminating the practice of failing large numbers of pupils because the course of study is too difficult for them.

2. The heterogeneity of pupils in every grade as regards chronological age, mental age, and education age renders extremely difficult the teaching of pupils of any grade as a single group. The Garfield pupils should be classified in grades and sections of grades according to their ability to accomplish school work. Failure to so classify pupils will inevitably result in classes of such diverse abilities that it will be impossible to adjust the curricular materials so that all pupils may profit by the instruction..

3. Retardation, which results in sending pupils to junior high school and high school at more advanced ages than normal and often results in elimination of pupils from full time school before finishing even the junior high school course, may be eliminated only by promoting pupils regularly. Only in this way can the aim of the junior high school to offer an educational program for all pupils in their early adolescence be realized. In order to accomplish this objective with a minimum of retardation, pupils in the elementary grades should be classified into grade divisions almost exclusively on the basis of age. Sections of grades formed on the basis of ability to do school work will make possible the adjustment of the course of study to the abilities of the several groups. If such a plan is started immediately in the early grades, a period of three to five years should witness a nearly complete elimination of retardation.

4. In order to better facilitate the adaptation of instructional materials to individual differences, the pupils within each classroom should be divided into 2 or 3 groups for instruction in the several subject. Such divisions should be made upon the basis of subject ability.

5. In the higher grades the instruction should be partially departmentalized. For example, reading for the 4th and 5th grades could be scheduled at the same hour and the pupils assigned to the several teachers on the basis of reading ability, regardless of grade. At a later date, it might be desirable to extend the departmentalization to other subjects.

6. The lower achievement of the Garfield pupils in reading than in arithmetic indicates a need for more emphasis on the instruction in reading. This is especially important since progress in all the subjects depends to a large extent on the pupils' ability to read.

7. The spelling accomplishment of the Garfield pupils was even lower than that in reading. Special attention should be directed to the teaching of spelling during the coming year.

8. Immediate reclassification of those overage pupils who, on the basis of mental and education tests are capable of doing work in a higher grade, is recommended.

9. The adjustment of those pupils who enter school with no knowledge of English could be facilitated by having on the teaching staff, especially in the lower grades, several teachers who can speak Italian. Many problems arising between the school and Italian parents who speak no English could be more easily and satisfactorily solved by such teachers. It is recommended that several teachers who can speak Italian be assigned to the Garfield school at the earliest opportunity.

10. The junior primary should prove effective for pupils entering school with no knowledge of English. After one semester of junior primary work, such pupils should be able to progress regularly thereafter.

11. Special emphasis should be placed on the regular promotion of pupils. Even though the Garfield pupils are below average in mental ability and educational achievement, the educational objective of placing these pupils in junior high school at approximately 12 years of age and adapting the program to their abilities, needs, and interests may be achieved.

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SUMMARY OF TESTING PROGRAM

I. Utilization of Tests and Measurements in the San Francisco Public Schools.

II. Reading and Arithmetic Abilities in the High Fourth, High Fifth and High Sixth Grades.

End of Spring Term, 1930

Bulletin No. 20

October 1930.

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UTILIZATION OF EDUCATIONAL TESTS AND MEASUREMENTS IN THE SAN FRANCISCO PUBLIC SCHOOLS

Purposes of Testing

Educational tests are used extensively in San Francisco for the following purposes.

1. Ability grouping for instructional purposes.
2. Selection of pupils for differentiated education.
3. Measurement of progress.
4. Diagnosis of class and individual difficulties.
5. Reduction of failure and retardation.
6. Evaluation and adaptation of methods and materials.
7. Curriculum organization and revision.

General Program

The general program which was organized by a committee of teachers and approved by principals, supervisors and deputy superintendents follows:

SCHEDULE OF TESTS FOR THE SAN FRANCISCO PUBLIC SCHOOLS

Test	K	L-1	L-2	H-3	H-4	H-5	H-6	*H-8	*H-9
Mental	x	x	x	x			x	x	x
Reading			x	x	x	x	x		
Arithmetic				x	x	x	x		

* Mental tests are given to pupils leaving the high eighth grade of elementary schools and the high ninth grade of junior high schools.

Special Testing Programs

In addition to the above required schedule principals may request additional tests to meet specific problems in their schools. Teachers receiving approval of supervisors and principals may carry out projects in which testing is a factor.

Ability Grouping.

A single test often serves many purposes. The Pintner-Cunningham Primary Group Mental Test, which is given to all pupils entering the first grade, illustrates this point. This test is given by Kindergarten and first grade teachers who have been carefully trained in the administration of the test and in the interpretation of its results.

Pupils are then placed into as many ability groups as the enrollment of the grade permits, that is, each teacher may divide her class into three groups. In schools having two low first grade teachers, six levels of ability may exist. In some schools it is found that a large number of children do not show a readiness for first grade work because of language difficulty or other correctable defects. These pupils are often placed together as a junior primary or first grade preparatory group. On the other hand, the highest ability group in some schools may accomplish a great deal more than the work required of low first grade pupils. In each case pupils are permitted to work with others of similar abilities. The rapidly moving pupil is not retarded by the presence of slow pupils, nor is the very slow pupil discouraged by having a standard set which is beyond his capacity.

Tests for Detection of Variability

An equally important function of the initial group test given to pupils entering school is to call attention to pupils who are outstanding from the point of view of either exceptionally high or low ability. Such pupils are recommended to individual tests the results of which, when combined with other data determine a pupil's eligibility to special education. The group intelligence test is an invaluable device for the early detection of variability in children. It enables the teacher to gain, within the first few days of school, information which under former conditions would take weeks and often months.

Flexibility of Classification.

Adjustments in classification are made whenever pupils manifest ability to work in a more advanced group. Re-checks of intelligence are made at the end of the low second, high third, high sixth and high eighth grades. Achievement tests are given at the end of the low second, high third, high fourth, high fifth and high sixth grades. The results of both intelligence tests and achievement tests, combined with teacher's judgment are used in the classification of pupils for instructional purposes.

Tests for Eligibility to Special Educational Treatment.

Through the general program of group testing, attention of the teacher is called to pupils who deviate greatly from normal. The source of this deviation may be physical, mental or emotional. In every case the pupil is given an individual mental test before being recommended to a type of special class suited to his needs. San Francisco provides special educational facilities to meet the needs of the following groups:

Mentally sub-normal	Visual defectives
Psycopathic and behavior cases	Crippled
Deaf and hard-of-hearing	Tubercular and cardiac cases

While teachers' judgments and other factors are considered in determining eligibility to the above groups, it would be impossible to carry on a program of differentiated education with any degree of proficiency without the individual intelligence test

Measurement of Progress

It is only since the introduction of standardized achievement tests that teachers have been able to measure with any degree of accuracy the progress of their pupils. Now, a teacher is privileged to measure the abilities of her incoming class, and at the end of the term measure again to determine the effectiveness of her teaching in terms of pupil achievement. This also aids the teacher in showing up variations in the learning abilities of pupils.

Diagnosis of Individual Difficulties.

While the achievement test is a popular and practical device for classification, placement and the measurement of progress it does not point to the causes of failure. For the latter purpose we look to the diagnostic test. A diagnostic test in arithmetic shows not only that a pupil is weak in subtraction but it points to his specific weakness. It may be that he has not mastered the subtraction combination or he may be uncertain of only one combination which is the source of his trouble. He may be afflicted with what is known as "zero difficulty", or he may not have mastered the borrowing technique. Diagnostic tests are finding a wider use in the San Francisco Public Schools each year. Teachers find them valuable aids in teaching arithmetic, reading and grammar.

Effects of Tests on Promotion Rate.

Through the continued use of measurements, failure and retardation have been reduced. By being aware of a pupil's limitations a teacher is able to place him in a group where he can realize success, hence gain promotion. Often failure is averted by the recognition of some correctable defect early in the term. Through the prevention of failure, overageness with its accompanying behavior irregularities has been reduced.

Evaluation of Materials and Methods

Teachers are no longer forced to give subjective opinions as to which method or text is most effective. Through properly controlling classroom conditions they can measure the gains made by the methods in question. San Francisco has made several surveys in which the effectiveness of homogeneous grouping in reading is shown by greater than normal gains per term.

Tests in Curriculum Revision.

In the construction and revision of the curriculum a knowledge of the abilities of pupils has aided materially. In the past, text books and supplementary books were selected on the basis of average abilities. Now it is possible to estimate the range of abilities to be met in each grade.

The foregoing description of the application of test results to school procedures is in no way complete or detailed. It merely shows in general how a large city system profits through the utilization of standardized tests.

SUMMARY OF TESTING PROGRAM

End of Spring Term, 1930

READING AND ARITHMETIC ABILITIES IN THE HIGH FOURTH, HIGH FIFTH, and HIGH SIXTH GRADES

All pupils of the high fourth, high fifth and high sixth grades were given the Stanford Arithmetic and Reading Examination at the close of the spring term 1930. The summaries and conclusions which follow are based on the results of this city wide survey, made possible through the cooperation of Deputy Superintendent Bertha E. Roberts and the teachers under her supervision.

The tabulations which follow show the actual number of pupils at each step of the age scale for chronological age, reading ability and arithmetic ability. Arithmetic and reading abilities are expressed in years and months throughout this study. At the bottom of the tabular statements of ability will be found the median age for each series, with the limits of the middle fifty per cent of the pupils, Q1 and Q3 respectively.

Table I shows the distribution of chronological ages, reading and arithmetic abilities for pupils in the high fourth grade. The median chronological age at the completion of the high fourth grade is 9 years, 11.5 months. Although high fourth grade pupils range in chronological age from eight years to over sixteen the extreme cases are rare and the middle fifty per cent of the pupils are included between 9 years, 7 months and 10 years, 9 months, a span of one year and two months. Twenty-five per cent of the high fourth grade pupils are 9 years, 7 months of age or younger, while the oldest twenty-five per cent are 10 years, 9 months of age or older. Approximately five percent of the pupils are over 12 years of age. Inspection of records shows the most extreme cases of overageness to be foreign pupils or pupils from homes where English is not spoken. In the overage group will also be found pupils of low mental ability; however, the most extreme cases of mental retardation are usually detected and segregated before the high fourth grade is reached.

In Table I, the distribution of reading ages exhibits an unusually wide range of ability. In spite of the wide range the record is highly favorable, the median reading age being 10 years, 10 months, and exceeding the chronological age median by more than ten months. Using the chronological age median as the standard to be expected of the pupils of the grade, this distribution shows that more than three-quarters of the pupils in the high fourth grade have abilities above standard. On this same basis, more than one-fourth of the high fourth grade pupils have reading

TABLE I

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY IN THE HIGH FOURTH GRADE
May 1930

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
17-0 to 17-5	3		
16-6 to 16-11	5		
16-0 to 16-5	1	6	
15-6 to 15-11	4	2	
15-0 to 15-5	5	15	
14-6 to 14-11	2	19	1
14-0 to 14-5	2	18	
13-6 to 13-11	12	31	
13-0 to 13-5	24	51	
12-6 to 12-11	38	105	5
12-0 to 12-5	82	202	42
11-6 to 11-11	142	424	285
11-0 to 11-5	204	547	279
10-6 to 10-11	410	695	1016
10-0 to 10-5	719	450	563
9-6 to 9-11	1105	344	494
9-0 to 9-5	429	142	200
8-6 to 8-11	102	97	55
8-0 to 8-5	16	53	24
7-6 to 7-11		24	10
7-0 to 7-5		19	10
6-6 to 6-11		1	1
Total	3305	3305	3305
Q 1	9-6.7	10-1.4	9-11.8
Median	9-11.5	10-10.0	10-7.1
Q 3	10-8. 6	11-7 .0	11-1.2

TABLE II.

CHRONOLOGICAL AGE, READING and ARITHMETIC ABILITY IN THE HIGH FIFTH GRADE

May 1930.

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
18-0 - 18-5	1	2	
17-6 - 17-11		1	
17-0 - 17-5		6	
16-6 - 16-11	4	8	3
16-0 - 16-5	3	30	6
15-6 - 15-11	7	45	9
15-0 - 15-5	16	65	19
14-6 - 14-11	13	80	35
14-0 - 14-5	28	65	53
13-6 - 13-11	36	112	102
13-0 - 13-5	65	160	117
12-6 - 12-11	137	368	297
12-0 - 12-5	249	302	355
11-6 - 11-11	433	549	647
11-0 - 11-5	603	490	666
10-6 - 10-11	921	385	415
10-0 - 10-5	410	177	172
9-6 - 9-11	96	119	92
9-0 - 9-5	22	55	42
8-6 - 8-11	3	16	9
8-0 - 8-5		8	4
7-6 - 7-11			
7-0 - 7-5		4	4
TOTAL	3047	3047	3047
Q 1	10 - 7.0	10 - 11.4	10 - 11.7
Median	11 - 0.1	11 - 8.4	11 - 6.6
Q 3	11 - 8.7	12 - 9.9	12 - 4.2

TABLE III.

CHRONOLOGICAL AGE, READING and ARITHMETIC ABILITY IN THE HIGH SIXTH GRADE

May 1930.

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
18-6 and over	2	1	
18-0 - 18-5	2	5	1
17-6 - 17-11	4	6	
17-0 - 17-5		19	5
16-6 - 16-11	2	39	17
16-0 - 16-5	10	84	64
15-6 - 15-11	16	185	104
15-0 - 15-5	33	147	114
14-6 - 14-11	54	189	144
14-0 - 14-5	89	154	131
13-6 - 13-11	140	195	270
13-0 - 13-5	211	274	272
12-6 - 12-11	387	459	440
12-0 - 12-5	646	334	333
11-6 - 11-11	836	371	475
11-0 - 11-5	355	243	361
10-6 - 10-11	105	135	133
10-0 - 10-5	39	48	40
9-6 - 9-11	6	28	24
9-0 - 9-5	1	15	7
8-6 - 8-11		3	
8-0 - 8-5		2	2
7-6 - 7-11		1	1
7-0 - 7-5		1	
TOTAL	2938	2938	2938
Q 1	11 - 7.1	11 - 9.7	11 - 7.6
Median	12 - 0.6	12 - 9.3	12 - 6.8
Q 3	12 - 8.8	14 - 3.2	13 - 8.3

abilities above the standard for the high sixth grade.

The arithmetic range of the high fourth grade, while not as wide as reading, shows abilities ranging from the second to the seventh grade standard. The median arithmetic age is 10 years, 7 months, which is more than seven months above the chronological age median for the high fourth grade.

The abilities for the high fifth and high sixth which are given in Table II and Table III, exhibit the same general characteristics as Table I for the high fourth grade. A wide variability in both chronological age and achievement prevails in every case. In both the high fifth and high sixth grades the median reading and arithmetic ages are consistently above the chronological age medians. Table IV summarizes the median chronological ages, reading, and arithmetic abilities for the grades tested.

TABLE IV.

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY MEDIAN FOR THE HIGH FOURTH, HIGH FIFTH and HIGH SIXTH GRADES

Grade	Chron. Age Yrs. Mos.	Read. Age Yrs. Mos.	Arith. Age Yrs. Mos.
High 4	9 - 11.5	10 - 10.0	10 - 7.1
High 5	11 - 0.1	11 - 8.4	11 - 6.6
High 6	12 - 0.6	12 - 9.3	12 - 6.8

In the above summary which gives the medians for each grade, those for reading and arithmetic are at least a half year above the chronological age median in every case.

While it is gratifying to note this consistent superiority, it should not be accepted without a brief consideration of the factors which are in part responsible for the conditions. Among factors contributing to the relatively high achievement of San Francisco pupils the following are probably of greatest consequence:

1. The Stanford Achievement Test has been standardized through nationwide application. Therefore a reading age of ten on the Stanford Reading Examination indicates that the pupil reads with the ability of the average ten year old pupil in the nation as a whole.

2. Accepting a national norm as a standard means that we are comparing our pupils with those who on the whole have a shorter school term, and less favorable learning conditions in general.

TABLE V.

CHRONOLOGICAL AGES IN THE HIGH FOURTH,
HIGH FIFTH and HIGH SIXTH GRADES

May 1930.

Age Range	Grade 4B	Grade 5B	Grade 6B
18 and over		1	4
17-6 to 17-11			4
17-0 to 17-5	3		
16-6 to 16-11	5	4	2
16-0 to 16-5	1	3	10
15-6 to 15-11	4	7	16
15-0 to 15-5	5	16	33
14-6 to 14-11	2	13	54
14-0 to 14-5	2	28	89
13-6 to 13-11	12	36	140
13-0 to 13-5	24	65	211
12-6 to 12-11	38	137	387
12-0 to 12-5	82	249	646
11-6 to 11-11	142	433	836
11-0 to 11-5	204	603	355
10-6 to 10-11	410	921	105
10-0 to 10-5	719	410	39
9-6 to 9-11	1105	96	6
9-0 to 9-5	429	22	1
8-6 to 8-11	102	3	
8-0 to 8-5	16		
TOTAL	3305	3047	2938
Q 1	9 - 6.7	10 - 7.0	11 - 7.1
Median	9 -11.5	11 - 0.1	12 - 0.6
Q 3	10 - 8.6	11 - 8.7	12 - 8.8

TABLE VI.

READING ABILITY IN THE HIGH FOURTH
HIGH FIFTH and HIGH SIXTH GRADES

May 1930.

Age Range	Grade 4B	Grade 5B	Grade 6B
18-0 to 18-5		2	6
17-6 to 17-11		1	6
17-0 to 17-5		6	19
16-6 to 16-11		8	39
16-0 to 16-5	6	30	84
15-6 to 15-11	2	45	185
15-0 to 15-5	15	65	147
14-6 to 14-11	19	80	189
14-0 to 14-5	18	65	154
13-6 to 13-11	31	112	195
13-0 to 13-5	51	160	274
12-6 to 12-11	165	368	459
12-0 to 12-5	202	302	334
11-6 to 11-11	424	549	371
11-0 to 11-5	547	490	243
10-6 to 10-11	695	385	135
10-0 to 10-5	450	177	48
9-6 to 9-11	344	119	28
9-0 to 9-5	142	55	15
8-6 to 8-11	97	16	3
8-0 to 8-5	53	8	2
7-6 to 7-11	24		1
7-0 to 7-5	19	4	1
6-6 to 6-11	1		
TOTALS	3305	3047	2938
Q 1	10 - 1.4	10 - 11.4	11 - 9.7
Median	10 -10.0	11 - 8.4	12 - 9.3
Q 3	11 - 7.0	12 - 9.9	14 - 3.2

TABLE VII.

ARITHMETIC ABILITY IN THE HIGH FOURTH
HIGH FIFTH and HIGH SIXTH
GRADES

May 1930.

Age Range	Grade 4B	Grade 5B	Grade 6B
18-0 to 18-5			1
17-6 to 17-11			
17-0 to 17-5			5
16-6 to 16-11		3	17
16-0 to 16-5		6	64
15-6 to 15-11		9	104
15-0 to 15-5		19	114
14-6 to 14-11	1	35	144
14-0 to 14-5		53	131
13-6 to 13-11		102	270
13-0 to 13-5		117	272
12-6 to 12-11	5	297	440
12-0 to 12-5	42	355	333
11-6 to 11-11	285	647	475
11-0 to 11-5	279	666	361
10-6 to 10-11	1016	415	133
10-0 to 10-5	583	172	40
9-6 to 9-11	494	92	24
9-0 to 9-5	200	42	7
8-6 to 8-11	55	9	
8-0 to 8-5	24	4	2
7-6 to 7-11	10		1
7-0 to 7-5	10	4	
6-6 to 6-11	1		
TOTAL	3305	3047	2938
Q 1	9-11.8	10-11.7	11-7.6
Median	10- 7.1	11- 6.6	12-6.8
Q 3	11- 1.2	12- 4.2	12-8.3

Table VI compares the reading abilities of pupils in the high fourth, high fifth and high sixth grades. This distribution would indicate that grade placement is not influenced greatly by reading ability of the pupils. There are pupils in each of the three half grades who read with abilities from one to six years beyond their present grade placement. In the high sixth grade, 829 or 28 per cent of the pupils have reading abilities required for success in high school. On the other hand approximately one-quarter of the high fourth grade pupils have higher reading ages than the lowest quarter of the high sixth grade.

Table VII compares arithmetic ability in the high fourth, high fifth and high sixth grades. As in the case of reading, much overlapping is seen. The spread of abilities, however, is not as great as in the reading distribution. The extent to which the arithmetic ability is more homogeneous is shown in Table VIII below, which gives the inter-quartile range for both abilities. The years and months stated below indicate the range within which are found the middle fifty percent of the cases.

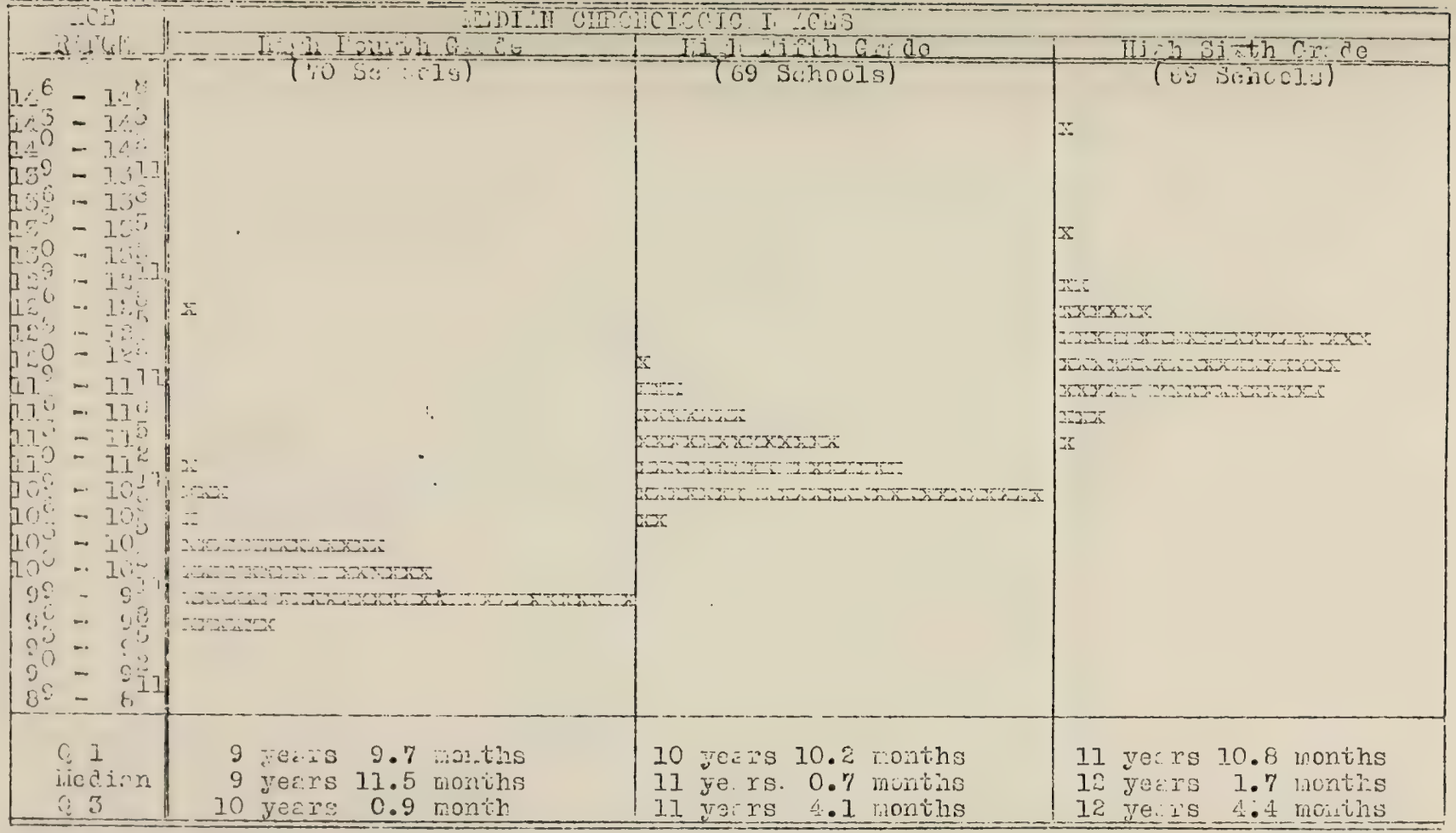
TABLE VIII.

INTER-QUARTILE RANGES IN READING AND ARITHMETIC ABILITIES FOR THE HIGH FOURTH, HIGH FIFTH, and HIGH SIXTH GRADES

Subject	Grade 4B Yrs. Mos.	Grade 5B Yrs. Mos.	Grade 6B Yrs. Mos.
Reading	1 - 5.6	1 - 10.5	2 - 5.5
Arithmetic	1 - 1.4	1 - 4.5	2 - 0.7
Difference	4.2	6.0	4.8

In both subjects there is an increase in the spread of abilities in each consecutive grade. The range of the middle fifty per cent is from four to six months wider in reading ability than in arithmetic ability. In a single school, however, the difference in the range of these abilities would not ordinarily be large enough to cause difficulty in the classification of pupils. The greatest instructional problems arise through the wide range of abilities found within the classes of each school.

Median abilities of individual schools when distributed exhibit the same general tendencies in the spread of abilities as the composite formed by a distribution of individual pupils from all schools. Figures 1, 2 and 3 give the class medians for chronological age, reading ability and arithmetic ability respectively. Figure 1 in which the median chronological ages of the high fourth, high fifth and high sixth grades are shown, calls attention to the amount of overlapping of ages in these three half grades.

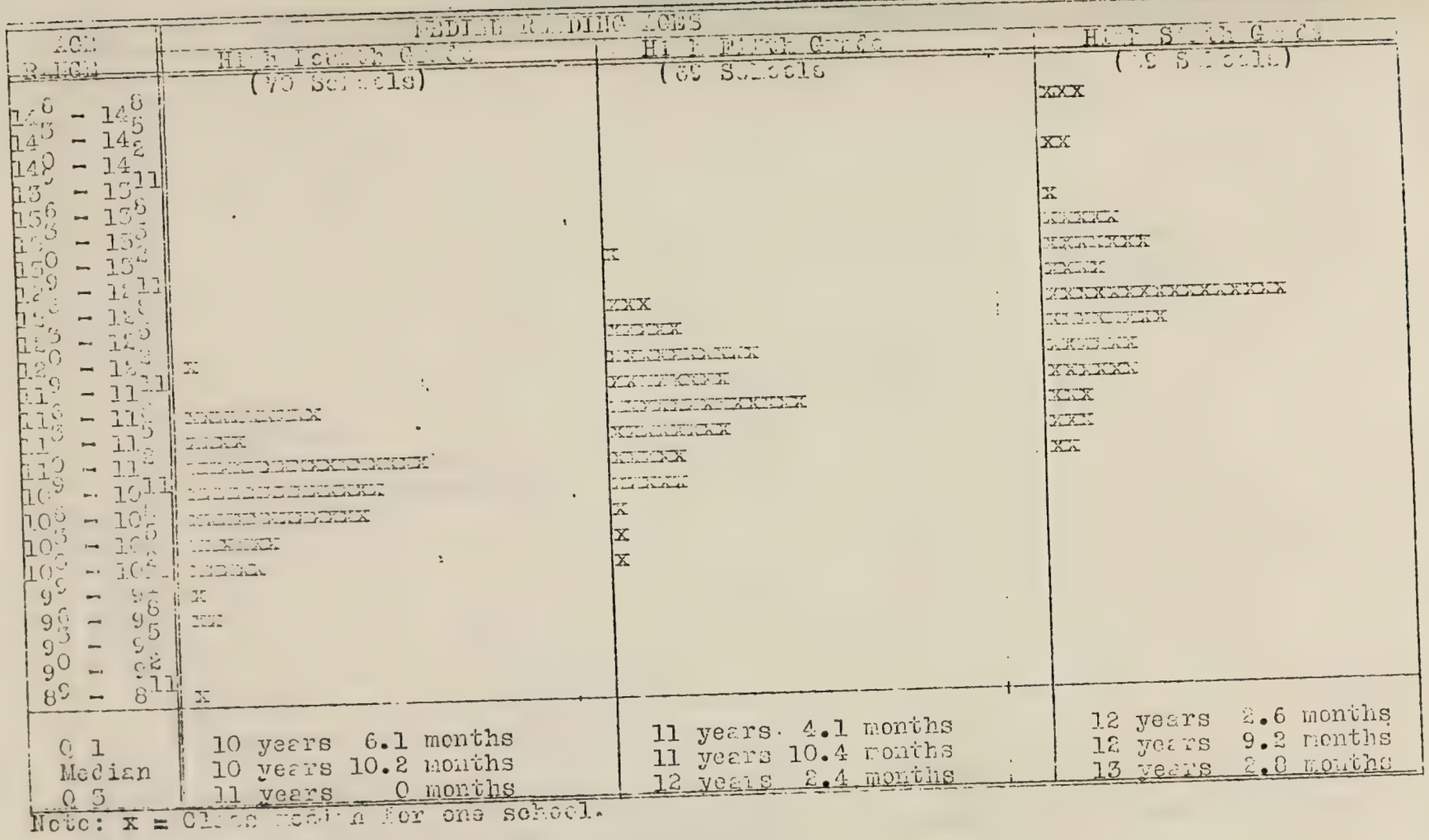


Note: x = Class Median for one school.

FIGURE 1.

CHRONOLOGICAL AGE MEDIANS FOR THE HIGH FOURTH, HIGH FIFTH, AND HIGH SIXTH GRADES

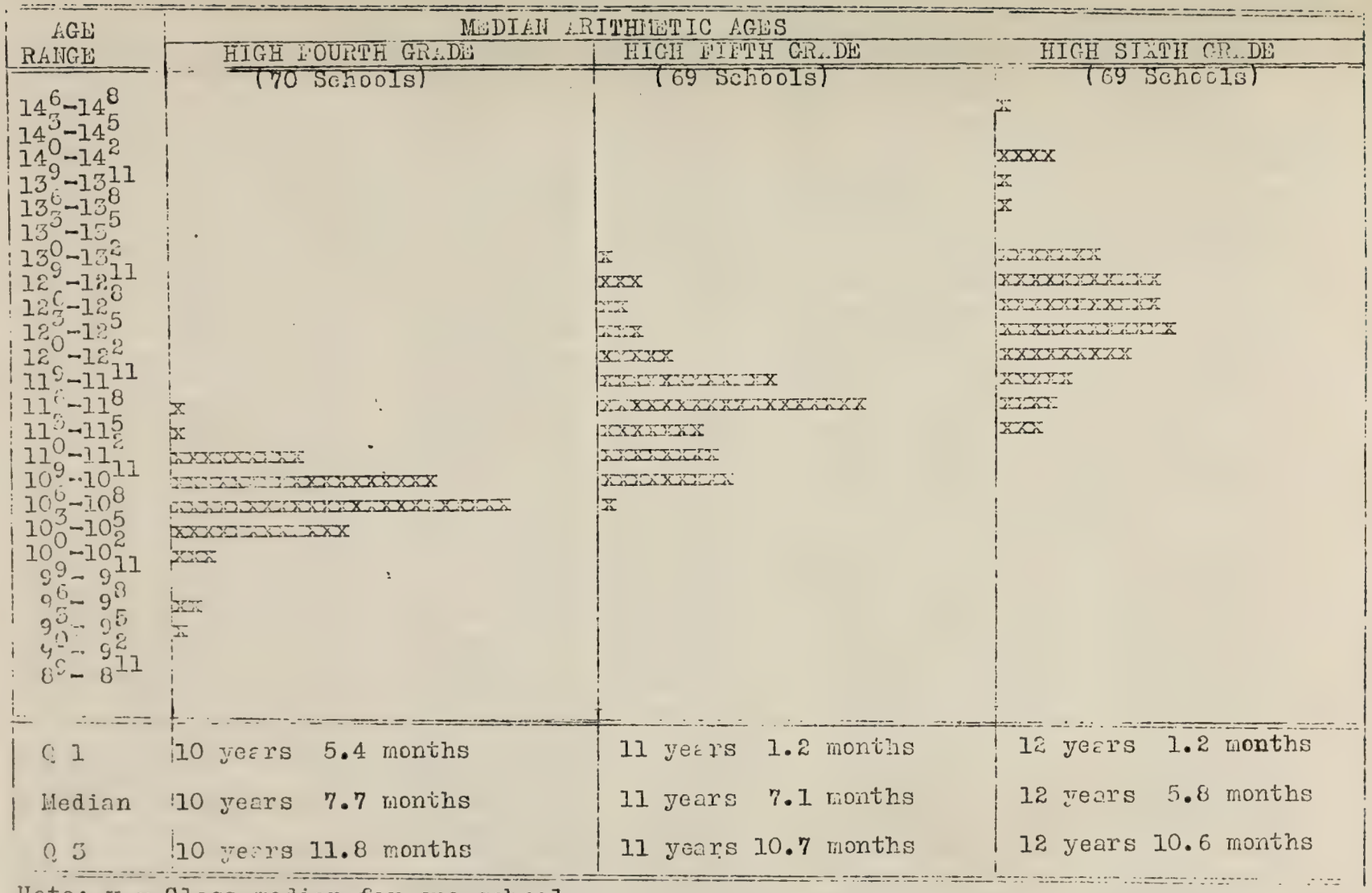
May 1930 Survey



Note: x = Class median for one school.

FIGURE 5.
READING AGE MEDIANS FOR THE
HIGH FOURTH, HIGH FIFTH, AND HIGH SIXTH GRADES

May 1930 Survey



Note: x = Class median for one school.

FIGURE 3.

ARITHMETIC AGE MEDIANS FOR THE
HIGH FOURTH, HIGH FIFTH, and HIGH SIXTH GRADES

May 1930 Survey

Some high fourth grades are as old or older than the youngest high fifth grades while the oldest high fifth grades in turn exceed the youngest sixth grades in chronological age. The schools having the highest chronological age medians are found to be those in which many pupils from foreign homes are enrolled. The lowest chronological age medians on the other hand are contributed by the schools from the more privileged districts where pupils as a group make more rapid progress.

In the distribution of reading age medians, Figure 2, unusual overlapping of abilities is shown. An inspection of the three distributions shows pupils of the same reading ability in the high fourth, high fifth and high sixth grades. In spite of the conspicuous overlapping a great majority of the classes are above the age norm, as shown in Figure 1. A range of approximately three years exists between the highest and lowest class medians for reading ability in each grade. In some schools the sixth grades have lower reading ability than the average of the high fifth grades for the city as a whole, while another group compares favorably with high eighth grade pupils.

The existence of a wide variability in reading is inevitable and the application of improved methods and intensive training will be more likely to increase than decrease it. Considering reading as a tool subject upon which success in many other fields depends, the next step is to adjust other fields of instruction to meet this wide variation in reading ability.

In Figure 3 the arithmetic medians are distributed. The picture is not unlike that of the reading distributions described above, the chief difference is that on the average the reading medians are higher on the age scale, surpassing the arithmetic abilities by approximately three months in each half grade. Comparison with the chronological age medians, Figure 1, however, shows the majority of schools to be above the age norm, the medians being from four to eight months higher.

In Figure 4, the median arithmetic and reading abilities of the various high sixth grades are distributed on a scatter diagram. Each cross (x) locates a school's median ability with respect to achievement in arithmetic and reading. The age range at the left shows arithmetic placement while that at the top indicates reading. The interval is located in which each ability is found and the cross placed in the square where these two meet. If a school has approximately the same ability in reading and arithmetic the cross will fall in or near the squares along the diagonal line. It will be observed that in Figure 4 there is a tendency for the crosses to cluster about the diagonal. Hence it may be said that in general, schools which are high in reading are high also in arithmetic and schools low in reading are low in arithmetic. A few scattered cases at the left in which the

READING AGE

ARITHMETIC AGE	11^{0}-11^{2}	11^{3}-11^{5}	11^{6}-11^{8}	11^{9}-11^{11}	12^{0}-12^{2}	12^{3}-12^{5}	12^{6}-12^{8}	12^{9}-12^{11}	13^{0}-13^{2}	13^{3}-13^{5}	13^{6}-13^{8}	13^{9}-13^{11}	14^{0}-14^{2}	14^{3}-14^{5}	14^{6}-14^{8}
14^{6} - 14^{8}															
14^{3} - 14^{5}															
14^{0} - 14^{2}					x						x		x		
13^{9} - 13^{11}								x							
13^{6} - 13^{8}									x						
13^{3} - 13^{5}										x					
13^{0} - 13^{2}							x			x	x				
12^{9} - 12^{11}		x		x		x		x	x	x	x		x		
12^{6} - 12^{8}						x	x	x		x	x				x
12^{3} - 12^{5}	x		x		x	x	x	x	x		x				
12^{0} - 12^{2}				x	x	x		x						x	
11^{9} - 11^{11}				x	x		x								
11^{6} - 11^{8}	x	x	x		x	x	x								
11^{3} - 11^{5}	x		x												
11^{0} - 11^{2}															

Note: x = Class median for one school.

FIGURE 4.

HIGH SIXTH GRADE READING AND ARITHMETIC MEDIANS - 69 SCHOOLS

May 1950 Survey

reading medians are conspicuously below the arithmetic medians are schools in which the enrollment is largely from non-English speaking homes. That the reading ability on the whole is above the arithmetic ability is shown by the fact that a majority of crosses are at the right of the diagonal line. A distribution of the same abilities for the high fourth and high fifth grades would reveal the same general tendencies.

S U M M A R Y

The foregoing tables and chart with their interpretations and descriptions attempt to give a picture of reading and arithmetic abilities in the San Francisco public schools. The following statements summarize in general the findings.

1. The median reading abilities are from eight to ten months superior to the chronological age norms in the grades tested.

2. The median arithmetic abilities are from six to seven months above the chronological age norm in the grades tested.

3. The medians for reading abilities are approximately three months higher than those for arithmetic abilities in the high fourth, high fifth and high sixth grades.

4. Schools high in reading ability are in general relatively high in arithmetic ability. In the case of a few schools drawing from foreign districts, arithmetic abilities are found to be higher.

5. Great overlapping of abilities is found in both reading ranges and arithmetic ranges from grade to grade. That is, pupils of the same abilities may be found in all of the three half grades tested.

6. The extensive overlapping of abilities together with the relatively high medians is probably indicative of the fact that there are many pupils who might succeed in the next half grade.

7. The wide variability shown throughout the city indicates that curricular adjustments and adaptations might be advantageous to schools having extremely high or low ability.

On the basis of the results of the foregoing survey the following remedial steps have been taken.

1. Teachers have been instructed in the technique for the organization of homogeneous reading ability groups within the grades tested. Each school has made scatter-diagrams of chronological ages and reading ages for each grade and has sectioned the pupils into groups which show the narrowest possible range for these two ages. Although a certain amount of flexibility exists the pupils receive reading instruction in these groups.

2. All pupils falling below the standard of the lowest quarter of the city in arithmetic ability in the grade tested have been given diagnostic tests to determine their specific weaknesses. After a period of intensive remedial treatment re-tests will be given.

3. All pupils who are one year or more over age for their grade and whose arithmetic and reading abilities indicate that they are capable of succeeding in work of the next grade, have been recommended to the principal for an extra promotion at the end of the current term.

4. All pupils who are one year or more over age for their grade and one year below the chronological age norm for the grade in reading and arithmetic abilities have been recommended for individual mental tests to determine eligibility to special educational treatment.

5. In the case of pupils of the high sixth grade who entered the junior high schools, the test records have been used as a basis of classification into ability groups. Mental test records and teachers' judgment have been combined with the achievement test records in order to determine placement.

6. The attention of the principal has been called to any irregularity within her school revealed by the survey and remedial measures have been suggested.

Administrators and teachers of the San Francisco public schools are to be commended upon the establishment and maintenance of conditions which are responsible for the high attainment revealed in this survey. The prompt and eager cooperation of the teachers in following every remedial suggestion not only preserves the present high standard but points toward more gratifying results in the future.

Bulletin #24

[San Francisco (City&County) Board of Education
Bureau of Research, Adult Education, & Evening School]

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A STUDY OF THE AGE AND ABILITY OF PUPILS ENTERING AND LEAVING JUNIOR HIGH SCHOOL

End of Fall 1930 Term

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A STUDY OF THE AGE AND ABILITY OF PUPILS ENTERING AND LEAVING JUNIOR HIGH SCHOOL

End of Fall 1930 Term

At the close of each term the pupils leaving the high sixth grades of elementary schools and the high ninth grades of junior high schools are given a mental test. The following summaries based on the results of these tests given in November 1930 show the tendencies of pupils entering and leaving the San Francisco junior high schools in terms of chronological age and mental ability. Tables I and II show the ages and mental abilities of the pupils who entered the respective junior high schools in January 1931. Tables III and IV summarize the ages and mental abilities of those leaving the high ninth grade of junior high schools.

Table V compares the chronological and mental age medians for the pupils entering the low seventh and those leaving the high ninth grade of each junior high school. The median chronological ages of those entering range from 11 years 8.9 months to 13 years 0.1 month, while the mental age medians for the same groups range from 10 years 7.5 months to 12 years 10.9 months. Presidio with the lowest chronological age median has the highest mental age median. Roosevelt is next lowest in chronological age median and next highest in mental age median. Francisco with the highest chronological age is lowest in mental age median.

In the groups entering junior high, the mental age median is lower than the chronological age median in six out of the ten schools. The differences range from 2 years 4.6 months below to 1 year 2 months above the chronological age. Although the high sixth grade pupils received the Otis Classification Test and the high ninth received the Terman Group Test, the mental age medians of the two grades might be compared. With the exception of Girls and Roosevelt, there is a tendency for the span between mental age and chronological age to become wider, the mental ages being relatively lower in the high ninth grade. This may be explained as follows.

1. All of the San Francisco junior high schools which have been in existence three or more years have rated consistently high in retardation and consistently low in mental ability, as shown in Table V.

2. As these pupils of low mental ability advance along the chronological age scale, the increment between the chronological and mental age tends to widen. A pupil who is 10 years of age having a mental age of 9 and an IQ of 90 will at 16 have a mental age of approximately 14 years and 5 months; hence the span between his chronological and mental age has increased from one year to one year and seven months. If the average IQ of the group is lower than 90 as it is in one or two cases, the increment would be relatively larger.

3. A recalculation of the chronological and mental age medians including only those schools having representative groups in both low seventh and high ninth grades emphasizes the point discussed above.

Grade	Median C.A. Yrs. Mos.	Median M.A. Yrs. Mos.	Difference Yrs. Mos.
*H-6	12 - 4.2	11 - 6.6	9.6
*H-9	15 - 3.1	14 - 2.1	1 - 1.0

*Roosevelt and Presidio excluded

4. It is to be expected that high sixth grade pupils who are 9.6 months below their chronological ages in mentality will be approximately 1 year and 1 month below, three years later, on the assumption that the intelligence quotient remains constant and that the groups entering these junior high schools each year are very much alike. In both the high sixth and high ninth of the above tabulation, the average IQ would approximate 93.

In the Roosevelt junior high school, the pupils of the present high ninth grade are not from the Roosevelt district as a group but many are transfers from Hamilton Junior High. It is predicted that when Roosevelt draws only from its immediate district the pupils as a group will be superior, as indicated by the record of those entering the low seventh grade.

Although the difference existing between the chronological and mental age medians of pupils entering Girls Junior High compared with the difference between the chronological and mental age medians of those leaving the high ninth grade might be considered negligible, investigation of enrollment records shows a trend toward a more city wide election of pupils, and lower abilities.

While the foregoing statements roughly describe the situation, a further analysis of the summaries will furnish valuable information for purposes of classification of pupils and adaptation of curricular measures within the various schools.

Table VI shows the chronological and mental age medians and the lower and upper limit of the middle fifty per cent of the pupils (Q_1 and Q_3 respectively) for the group entering each junior high school. Table VII gives the same information for those leaving the high ninth grades for the same schools, with the exception of Presidio, which had no high ninth in December 1930.

Inspection of Table VI reveals the following outstanding facts:

1. Approximately 75 per cent of the pupils entering Francisco have chronological ages reaching or exceeding the oldest 25 per cent of those entering Presidio.

2. More than 75 per cent of the Presidio pupils reach or exceed the mental ability of the highest 25 per cent of the Francisco pupils.

3. In Francisco and Portola the lowest 25 per cent of the pupils have mental ages below that required for success in the low fifth grade.

4. The highest 25 per cent of those entering Presidio and Roosevelt have mental ages which would predict success in the low ninth grade.

5. The pupils entering these schools range in mental abilities from that required for success in the fourth grade of elementary to the senior year of high school.

6. A range of approximately 2 years mental ability exists between the upper limit of the lowest quarter and the lower limit of the highest quarter in mental ability for each group.

The foregoing facts are only a few of the high spots revealed by an inspection of Table VI. Table VII for the high ninth grade is equally helpful in showing the nature of abilities in the various schools.

This summary enables each junior high school administrator to know not only the ability of the pupils within his school but their abilities with respect to those in the other junior high schools of the city. In selecting the number of pupils to receive the minimum and enriched courses of study, the tables supplied in this study will serve as a guide.

That wide ability exists among junior high school pupils is a well established fact. This is our first opportunity to put before the junior high school administrators the extent of this variability, and point to the places where policies and procedures might be adjusted or modified.

TABLE I

Distribution of Chronological Ages of Pupils Entering the Low Seventh Grade of Junior High Schools

November, 1930

Chronological Age Range	School										
	Daniel Webster	Everett	Fran-cisco	Girls	Horace Mann	John Swett	Noe Valley	Portola	Presidio	Roose-velt	Total
17-6 and over			10								10
17-0 to 17-5			2	1							3
16-6 to 16-11			5								5
16-0 to 16-5		1	6		1	1					9
15-6 to 15-11	1	3	3	1							8
15-0 to 15-5	1	2	8	3		1				1	16
14-6 to 14-11	2	3	11	2	2	2				1	25
14-0 to 14-5	2	6	9	6	4	2	1	2	2	2	35
13-6 to 13-11	4	11	20	13	11	3	3	2	1	2	75
13-0 to 13-5	9	26	14	12	9	9	9	4	6	11	112
12-6 to 12-11	10	28	22	15	31	10	5	8	9	12	160
12-0 to 12-5	13	44	33	20	29	15	10	13	19	22	244
11-6 to 11-11	14	39	22	20	32	23	12	9	45	38	289
11-0 to 11-5	3	32	6	16	9	7	3	3	80	28	153
10-6 to 10-11	1	8	2	3	6	1	5	2	20	16	64
10-0 to 10-5		4		1	4	1		1	5	1	17
Total	60	207	173	113	138	75	48	44	233	134	1225
	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.
Q_1	11-10.2	11-6.6	12-1.9	11-7.9	11-8.4	11-8.0	11-7.5	11-8.7	11-3.8	11-3.0	11-7.0
Median	12-5.0	12-2.3	13-0.1	12-4.5	12-3.5	12-1.7	12-1.9	12-2.7	11-8.9	11-9.0	12-1.4
Q_3	13-2.1	12-11.5	14-6.1	13-4.4	12-10.0	12-11.0	13-0.2	12-9.3	12-2.7	12-5.1	12-11.2

TABLE II

Distribution of Mental Ages of Pupils Entering the Low Seventh Grade of Junior High School

Otis Test - November 1930

Mental Age Range	School										
	Daniel Webster	Everett	Francisco	Girls	Horace Mann	John Swett	Noe Valley	Portola	Presidio	Roosevelt	Total
17-6 to 17-11									1		1
17-0 to 17-5				1					2	2	5
16-6 to 16-11		2		2		1			8	2	15
16-0 to 16-5		2		1	3	2			6	3	17
15-6 to 15-11		4		3	3	1	1		14	1	27
15-0 to 15-5		6	1	3	1	2	2	1	17	10	43
14-6 to 14-11	1	11	4	5	4	3	5	2	19	11	65
14-0 to 14-5		14	5	4	6	2	1	1	18	12	63
13-6 to 13-11		9	1	3	7	3	4	1	17	10	55
13-0 to 13-5	4	13	5	4	8	5	4	6	12	14	75
12-6 to 12-11	4	22	6	9	15	12	5	4	29	16	122
12-0 to 12-5	10	28	13	15	20	11	5	5	28	9	144
11-6 to 11-11	8	16	6	14	16	6	5		20	10	101
11-0 to 11-5	9	18	27	12	13	10	4	4	19	13	129
10-6 to 10-11	11	22	28	11	13	9	4	4	10	5	117
10-0 to 10-5	7	15	20	12	12	3	6	5	9	8	97
9-6 to 9-11	2	10	16	3	9	2	1	6	3	4	56
9-0 to 9-5	1	9	19	6	6	1	1	3	1		47
8-6 to 8-11	1	3	15	4		2		1		3	29
Less than 8-6	2	3	7	1	2			1		1	17
Total	60	207	173	113	138	75	48	44	233	134	1225
	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.
Q_1	10-6.6	10-8.5	9 -6.3	10-6.7	10-8.0	11-0.5	10-11.5	9 -11.5	11-10.4	11-5.3	10-8.6
Median	11-3.5	12-0.8	10-7.5	11-8.7	11-10.7	12-1.9	12-3.1	11-2.5	12-10.9	12-10.2	12-0.3
Q_3	12-1.9	13-3.3	11-5.0	12-10.0	12-10.5	12-11.7	13-7.0	12-11.5	14-8.3	14-2.3	13-4 2

TABLE III

Distribution of Chronological Ages
Junior High School Pupils
Leaving the High Ninth Grade

November, 1930

Chronological Age Range	School									
	Daniel Webster	Everett	Francisco	Girls	Horace Mann	John Swett	Noe Valley	Portola	Roosevelt	Total
17-6 and over	2	10	14	4	5	4		4	2	45
17-0 to 17-5		7	7	3	1		1	3	2	24
16-6 to 16-11	2	29	18	7	12	8	3	4	3	86
16-0 to 16-5	4	51	30	13	20	12	4	7	13	154
15-6 to 15-11	9	58	31	24	30	11	15	15	16	209
15-0 to 15-5	7	90	25	41	50	12	11	10	14	268
14-6 to 14-11	6	82	20	38	37	20	12	10	14	234
14-0 to 14-5	2	62	9	17	28	15	12	4	12	154
13-6 to 13-11		21	5	9	9	8	3	1		55
13-0 to 13-5	1	3	1	1	2	7	1	1		10
12-6 to 12-11										-
12-0 to 12-5								1		1
11-6 to 11-11					1					1
Total	33	413	160	157	195	85	62	60	76	1241
	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.
Q_1	14-10.7	14-7.8	15-0.7	14-7.7	14-6.9	14-8.8	14-5.3	14-10.3	14-8.5	14-7.8
Median	15-8.8	15-2.1	15-9.5	15-1.5	15-2.0	15-3.9	15-1.1	15-6.7	15-4.6	15-3.2
Q_3	15-11.5	15-10.9	16-6.0	15-8.4	15-9.4	16-1.8	15-8.5	16-2.1	15-11.5	15-11.5

TABLE IV

Distribution of Mental Ages
Junior High School Pupils
Leaving the High Ninth Grade

Terman Test - November 1930

Mental Age Range	School									
	Daniel Webster	Everett	Francisco	Girls	Horace Mann	John Swett	Noe Valley	Portola	Roosevelt	Total
18-0 and over		3	1	2	2	1	3		1	13
17-6 to 17-11		8		2	1	3	2		1	17
17-0 to 17-5	1	12	1	7	8	4	1		3	37
16-6 to 16-11		15	6	12	12	4	3	1	4	57
16-0 to 16-5	2	38	3	10	15	7	4	2	3	84
15-6 to 15-11	2	33	6	11	17	13	6	5	12	105
15-0 to 15-5	2	38	10	20	22	12	9	4	7	124
14-6 to 14-11	2	36	10	21	18	8	2	6	10	113
14-0 to 14-5	5	50	9	23	22	8	7	5	13	142
13-6 to 13-11	5	39	21	17	33	9	6	6	7	143
13-0 to 13-5	3	36	17	14	20	6	9	11	5	121
12-6 to 12-11	4	41	33	8	16	7	3	6	4	122
12-0 to 12-5	2	30	14	8	6	1	4	4	6	75
11-6 to 11-11	3	20	23	2	3	1	1	8		61
11-0 to 11-5	1	10	5			1	2	2		21
10-6 to 10-11	1	3	1							5
10-0 to 10-5										
9-6 to 9-11										
9-0 to 9-5		1								1
Total	33	413	160	157	195	85	62	60	76	1241
	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.	Yrs.Mos.
Q_1	12-7.3	12-11.5	12-4.2	13-8.1	13-6.2	13-9.0	13-3.2	12-6.5	13-8.9	13-0.8
Median	13-8.5	14-2.8	13-0.9	14-7.4	14-4.8	15-0.3	14-4.6	13-5.0	14-7.3	14-2.6
Q_3	14-7.6	15-6.8	14-3.5	16-1.1	15-7.7	15-10.5	15-9.0	14-5.5	15-8.0	15-5.7

TABLE V

Comparison of Chronological and Mental Age Medians of Pupils Entering and Leaving Junior High School

November, 1950

School	High Sixth Grade			High Ninth Grade		
	C.A.Median Yrs. Mos.	M.A.Median Yrs. Mos.	Diff. Yrs. Mos.	C.A.Median Yrs. Mos.	M.A.Median Yrs. Mos.	Diff. Yrs. Mos.
Daniel Webster	12 - 5.0	11 - 3.5	—1 - 1.5	15 - 8.8	13 - 8.5	—2 - 0.3
Everett	12 - 2.3	12 - 0.8	—0 - 1.5	15 - 2.1	14 - 2.8	—0 - 11.3
Francisco	13 - 0.1	10 - 7.5	—2 - 4.6	15 - 9.5	13 - 0.9	—2 - 8.6
Girls	12 - 4.5	11 - 8.7	—0 - 7.8	15 - 1.5	14 - 7.4	—0 - 6.1
Horace Mann	12 - 3.5	11 - 10.7	—0 - 4.8	15 - 2.0	14 - 4.8	—0 - 9.2
John Swett	12 - 1.7	12 - 1.9	0 - 0.2	15 - 3.9	15 - 0.3	—0 - 3.6
Noe Valley	12 - 1.9	12 - 3.1	0 - 1.2	15 - 1.1	14 - 4.6	—0 - 8.5
Portola	12 - 2.7	11 - 2.5	—1 - 0.2	15 - 6.7	13 - 5.0	—2 - 1.7
Presidio	11 - 8.9	12 - 10.9	1 - 2.0	(No ninth year)		
Roosevelt	11 - 9.0	12 - 10.2	1 - 1.2	15 - 4.6	14 - 7.3	—0 - 9.3
Total	12 - 1.4	12 - 0.3	—0 - 1.1	15 - 3.2	14 - 2.6	—1 - 0.6

TABLE VI

Chronological and Mental Age
Medians and Limits of the Middle
Fifty Per Cent for Pupils Entering
Junior High School January 1931

November, 1930

School	Chronological Age			Mental Age		
	Q_1	Median	Q_3	Q_1	Median	Q_3
Daniel Webster	11 - 10.2	12 - 5.0	13 - 2.1	10 - 6.6	11 - 3.5	12 - 1.9
Everett	11 - 6.6	12 - 2.3	12 - 11.5	10 - 8.5	12 - 0.8	13 - 3.3
Francisco	12 - 1.9	13 - 0.1	14 - 6.1	9 - 6.3	10 - 7.5	11 - 5.0
Girls	11 - 7.9	12 - 4.5	13 - 4.4	10 - 6.7	11 - 8.7	12 - 10.0
Horace Mann	11 - 8.4	12 - 3.5	12 - 10.0	10 - 8.0	11 - 10.7	12 - 10.5
John Swett	11 - 8.0	12 - 1.7	12 - 11.0	11 - 0.5	12 - 1.9	12 - 11.7
Noe Valley	11 - 7.5	12 - 1.9	13 - 0.2	10 - 11.5	12 - 3.1	13 - 7.0
Portola	11 - 8.7	12 - 2.7	12 - 9.3	9 - 11.5	11 - 2.5	12 - 11.5
Presidio	11 - 3.8	11 - 8.9	12 - 2.7	11 - 10.4	12 - 10.9	14 - 8.3
Roosevelt	11 - 3.0	11 - 9.0	12 - 5.1	11 - 5.3	12 - 10.2	14 - 2.3
Total	11 - 7.0	12 - 1.4	12 - 11.2	10 - 8.6	12 - 0.3	13 - 4.2

TABLE VII

Chronological and Mental Age Medians and Limits of the Middle Fifty Per Cent for Pupils Leaving the High Ninth Grade of Junior High Schools

November, 1930

School	Chronological Age			Mental Age		
	Q_1	Median	Q_3	Q_1	Median	Q_3
Daniel Webster	14 - 10.7	15 - 8.8	15 - 11.5	12 - 7.3	13 - 8.5	14 - 7.6
Everett	14 - 7.8	15 - 2.1	15 - 10.9	12 - 11.5	14 - 2.8	15 - 6.8
Francisco	15 - 0.7	15 - 9.5	16 - 6.0	12 - 4.2	13 - 0.9	14 - 3.5
Girls	14 - 7.7	15 - 1.5	15 - 8.4	13 - 8.1	14 - 7.4	16 - 1.1
Horace Mann	14 - 6.9	15 - 2.0	15 - 9.4	13 - 6.2	14 - 4.8	15 - 7.7
John Swett	14 - 8.8	15 - 3.9	16 - 1.8	13 - 9.0	15 - 0.3	15 - 10.5
Noe Valley	14 - 5.3	15 - 1.1	15 - 8.5	13 - 3.2	14 - 4.6	15 - 9.0
Portola	14 - 10.3	15 - 6.7	16 - 2.1	12 - 6.5	13 - 5.0	14 - 5.5
Roosevelt	14 - 8.5	15 - 4.6	15 - 11.5	13 - 8.9	14 - 7.3	15 - 8.0
Total	14 - 7.8	15 - 3.2	15 - 11.5	13 - 0.8	14 - 2.6	15 - 5.7

Bulletin #25

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SURVEY OF ACHIEVEMENT IN THE SAN FRANCISCO PUBLIC SCHOOLS

High Third, High Fourth, High Fifth and High Sixth Grades

(November - 1930)

Bulletin No. 25

February 1931

Superintendent of Schools
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SURVEY OF ACHIEVEMENT IN THE SAN FRANCISCO PUBLIC SCHOOLS

High Third, High Fourth, High Fifth and High Sixth Grades

(November - 1930)

This summary of the November, 1930 Survey of Achievement in the San Francisco Public Schools is more than a statement of school efficiency. It is more than a record of pupil progress. It is the product of a progressive and well informed teaching body, guiding by best known methods, pupils of varying abilities to higher levels of achievement.

Five years ago marked the beginning of the first city-wide achievement testing. At this time the work was carried on by Deputy Superintendent Bertha B. Roberts, cooperating with the Department of Educational Research and Service and assisted by a few trained teachers scattered about the city. Through series of instructional meetings attended at one time or another by practically every elementary principal and teacher, the testing program has become a cooperative project in which every elementary teacher actively participates. Over a year ago it was possible to discontinue the general instructional meetings and they are now held only for the purpose of introducing a new test. Mimeographed instructions now carry to teachers the necessary directions for conducting each survey and suggestions for the most efficient utilization of test results.

The tabulations and summaries which follow can tell but a small portion of the story of the achievement of San Francisco pupils. A summary may show that the city as a whole is above the norm in reading. It cannot show in any de ree the amount of effort put forth by more than a thousand teachers to bring a city standard to such a level. A summary may also show that a certain third grade is below the norm in reading ability. It cannot show that this group of pupils entered the first grade with practically no knowledge of English and that considering their handicap they have made greater than normal progress. It is hoped that the reader will not lose sight of the great dynamic program lying behind this summary which must necessarily take an inanimate statistical form.

All pupils of the high third, high fourth, high fifth, and high sixth grades were given the Stanford Reading and Arithmetic Examination at the close of the fall term, 1930. The summaries and conclusions which follow are made possible through the cooperation of Deputy Superintendent Bertha B. Roberts and the teachers under her supervision.

The tabulations which follow show the actual number of pupils at each step of the age scale for chronological age, reading, and arithmetic ability. Reading and arithmetic abilities are expressed in years and months throughout this study. At the bottom of each tabular statement of ability will be found the median age for each series with the limit of the middle fifty per cent of the pupils Q_1 and Q_3 respectively.

Table I shows the distribution of chronological ages, reading and arithmetic ability for pupils of the high third grade. Aside from a reading test given to these pupils when they were in the low second grade, this is the first formal test of achievement they have received. A wide range of abilities is shown. Considering the fact that a large per cent of these pupils enter school with no knowledge of English and equally large numbers come from homes of unusual opportunity, such a range is to be expected. It would seem on the whole that favorable abilities or learning conditions overshadow the unfavorable in that the median of the high third grade in both reading and arithmetic ability shows a margin significantly above the median chronological age of the group.

While the pupils leaving the high third grade range in chronological age from 7 years to 12 years 6 months, the extreme cases are rare and the middle fifty per cent of the cases are included between 8 years 8 months and 9 years 8 months, a span of only one year. Inspection of individual records shows that pupils from foreign homes make up a large percentage of the overage group.

A wide range of reading ability is also exhibited, abilities from less than 6 years 6 months to 12 years being present among pupils leaving the high third grade. The median reading age, 9 years 3 months, exceeds the chronological age by two months. An inspection of this tabular array indicates the existence of considerable heterogeneity. It must be kept in mind however that 70 schools are included and that no one school would display such a wide range. The range of abilities within the schools is reduced for instructional purposes by grouping homogeneously on the basis of the test records.

Tables II, III, and IV give the chronological, reading and arithmetic ages for the high fourth, high fifth and high sixth grades, respectively. Table V shows the distribution of chronological ages in the four half-grades under consideration. Great overlapping is seen, pupils of the same ages being found in the high third to the high sixth grades, inclusive. While the total range appears unusually wide, the median in each case is normal for the grade, and the summary at the foot of the table shows the middle fifty per cent of each grade to fall within a relatively narrow span.

Table VI compares the reading ability in the high third, high fourth, high fifth, and high sixth grade, while Table VII gives the distribution of abilities in arithmetic for the same grades. These tables call attention to the overlapping of abilities in both reading and arithmetic.

Reading abilities representative of each elementary grade can be found in each distribution. Many pupils are found reading three years above the ability required for their grade and a few extreme cases are reading six years beyond their grade standard.

The median chronological, reading and arithmetic ages for the four half-grades tested follow in Table VIII.

TABLE VIII

Median Ages of Pupils in
the H-3, H-4, H-5, and H-6 Grades

Grade	No. of Pupils	Chron. Age Yrs. Mos.	Read. Age Yrs. Mos.	Arith. Age Yrs. Mos.
High 3	2704	9 - 0.9	9 - 2.9	9 - 4.5
High 4	2707	10 - 0.8	10 - 9.0	10 - 7.2
High 5	2636	11 - 1.1	11 - 8.1	11 - 5.1
High 6	2530	12 - 1.5	12 - 7.0	12 - 4.3

In every case it is seen that the median achievement exceeds the median chronological age by a significant margin. With the exception of the high third grade, the reading age median is from two to three months higher than the arithmetic median.

The tabulations up to this point have been in terms of the distribution of individual ages and abilities. Those which follow are in terms of school medians for each grade and age or ability under consideration. Figure I shows a distribution of school medians for high third grade pupils in chronological age, reading age, and arithmetic age. Figures II, III, and IV give the same information for the high fourth, high fifth, and high sixth grades, respectively.

The median reading and arithmetic ages are found to vary widely. A span of 3 years 6 months exists between the schools having the highest and the lowest abilities in reading in high third grade. That wide differences in ability exist in the various schools throughout the city in each grade and subject tested is also shown in Figures II, III and IV.

FINDINGS AND CONCLUSIONS

1. Accepting the median chronological age as the standard of achievement to be expected, a consistent superiority is shown by the San Francisco pupils in the grades tested.

2. Reading and arithmetic medians for the city as a whole exceed the chronological age medians to the following extent.

Grade	Reading	Arithmetic
High 3	2.0 months	3.6 months
High 4	8.2 months	6.4 months
High 5	7.0 months	4.0 months
High 6	5.5 months	2.8 months

3. The highest quarter of pupils in each grade tested show reading abilities far beyond the demands of the grade in which they are receiving instruction. This upper quarter exceeds 9 years 11 months in the high third grade, 11 years 5 months in the high fourth, 12 years 8 months in the high fifth, and 14 years in the high sixth. In each case this group demonstrates abilities from two to four terms beyond the median achievement of the grade.

4. Reading abilities with the exception of the high third grade are higher than the arithmetic medians.

5. Overlapping of abilities is present throughout all of the grades tested. Some high third grades in the city have reading abilities exceeding several of the high fourth grades and a few of the high fifth grades.

6. In the high fourth grades throughout the city, median reading abilities are found as low as 8 years 9 months and as high as 11 years 9 months.

7. The high fifth and high sixth grades of some schools have reading abilities high enough for success in high school while a few do not meet the ability required for high fifth grade success.

8. Exceptionally high and low abilities are more prevalent in reading than in arithmetic.

9. The wide variability existing within the same grade of individual schools emphasize the need for homogeneous instructional groups.

10. The wide range of abilities found throughout the city calls attention to the need of enrichment of the curriculum for our pupils of exceptionally high ability and a modification for those at the lower end of the scale.

TABLE I

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY IN THE HIGH THIRD GRADE

November 1930

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
12-6 to 12-11	20		
12-0 to 12-5	10		
11-6 to 11-11	24	12	1
11-0 to 11-5	54	89	23
10-6 to 10-11	132	219	212
10-0 to 10-5	192	333	357
9-6 to 9-11	426	483	634
9-0 to 9-5	651	494	710
8-6 to 8-11	887	324	391
8-0 to 8-5	208	286	184
7-6 to 7-11	33	160	76
7-0 to 7-5	7	118	57
6-6 to 6-11		90	26
Less than 6-6		96	33
Total	2704	2704	2704
Q_1	8 - 8.0	8 - 3.9	8 - 10.1
Median	9 - 0.9	9 - 2.9	9 - 4.5
Q_3	9 - 8.1	9 - 11.2	9 - 10.7

TABLE II

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY IN THE HIGH FOURTH GRADE

November 1930

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
17-6 and over	7		
17-0 to 17-5		1	
16-6 to 16-11	2	1	
16-0 to 16-5	2	3	
15-6 to 15-11	6	8	
15-0 to 15-5	9	9	
14-6 to 14-11	3	17	
14-0 to 14-5	9	9	
13-6 to 13-11	15	24	1
13-0 to 13-5	15	34	1
12-6 to 12-11	34	119	4
12-0 to 12-5	66	117	25
11-6 to 11-11	114	340	173
11-0 to 11-5	196	433	545
10-6 to 10-11	402	569	840
10-0 to 10-5	613	362	452
9-6 to 9-11	864	272	339
9-0 to 9-5	287	168	203
8-6 to 8-11	56	118	69
8-0 to 8-5	5	64	32
7-6 to 7-11	2	18	10
7-0 to 7-5		21	13
TOTAL	2707	2707	2707
Q_1	9 - 7.8	9 - 11.7	9 - 11.6
Median	10 - 0.8	10 - 9.0	10 - 7.2
Q_3	10 - 8.5	11 - 5.6	11 - 0.3

TABLE III

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY IN THE HIGH FIFTH GRADE

November 1930

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
18-0 and over	6		
17-6 - 17-11	2		
17-0 - 17-5	1	1	1
16-6 - 16-11	4	7	
16-0 - 16-5	8	24	4
15-6 - 15-11	9	50	3
15-0 - 15-5	6	58	11
14-6 - 14-11	9	74	27
14-0 - 14-5	12	45	42
13-6 - 13-11	36	112	72
13-0 - 13-5	71	128	114
12-6 - 12-11	153	268	219
12-0 - 12-5	211	291	271
11-6 - 11-11	395	459	513
11-0 - 11-5	546	397	598
10-6 - 10-11	765	349	434
10-0 - 10-5	316	166	162
9-6 - 9-11	78	116	116
9-0 - 9-5	8	62	36
8-6 - 8-11		21	7
8-0 - 8-5		5	5
7-6 - 7-11		2	1
7-0 - 7-5		1	
TOTAL	2636	2636	2636
Q_1	10 - 7.5	10 - 10.4	10 - 10.1
Median	11 - 1.1	11 - 8.1	11 - 5.1
Q_3	11 - 9.5	12 - 7.9	12 - 1.8

TABLE IV

CHRONOLOGICAL AGE, READING AND ARITHMETIC ABILITY IN THE HIGH SIXTH GRADE

November 1930

Age Range	Chron. Age	Reading Ability	Arithmetic Ability
18-6 and over	5		
18-0 to 18-5	4	3	1
17-6 to 17-11	3	3	
17-0 to 17-5	3	24	2
16-6 to 16-11	9	43	10
16-0 to 16-5	12	83	31
15-6 to 15-11	20	147	59
15-0 to 15-5	26	118	85
14-6 to 14-11	46	127	126
14-0 to 14-5	79	100	113
13-6 to 13-11	138	187	202
13-0 to 13-5	227	183	229
12-6 to 12-11	364	329	345
12-0 to 12-5	503	266	305
11-6 to 11-11	639	337	479
11-0 to 11-5	308	233	301
10-6 to 10-11	107	177	146
10-0 to 10-5	36	89	53
9-6 to 9-11	1	43	26
9-0 to 9-5		23	13
8-6 to 8-11		11	1
8-0 to 8-5		4	2
7-6 to 7-11			1
TOTAL	2530	2530	2530
Q_1	11 - 7.2	11 - 6.4	11 - 6.6
Median	12 - 1.5	12 - 7.0	12 - 4.3
Q_3	12 - 10.5	14 - 0.4	13 - 5.4

TABLE V

CHRONOLOGICAL AGES IN THE HIGH THIRD, HIGH FOURTH, HIGH FIFTH AND HIGH SIXTH GRADES

November 1930

Age Range	Grade 3B	Grade 4B	Grade 5B	Grade 6B
18 and over		5	6	9
17-6 to 17-11		2	2	3
17-0 to 17-5			1	3
16-6 to 16-11		2	4	9
16-0 to 16-5		2	8	12
15-6 to 15-11		6	9	20
15-0 to 15-5		9	6	26
14-6 to 14-11		3	9	46
14-0 to 14-5		9	12	79
13-6 to 13-11		15	36	138
13-0 to 13-5		15	71	227
12-6 to 12-11	20	34	153	364
12-0 to 12-5	10	66	211	503
11-6 to 11-11	24	114	395	639
11-0 to 11-5	54	196	546	308
10-6 to 10-11	132	402	765	107
10-0 to 10-5	192	613	316	36
9-6 to 9-11	426	864	78	1
9-0 to 9-5	651	287	8	
8-6 to 8-11	887	56		
8-0 to 8-5	268	5		
7-6 to 7-11	33	2		
7-0 to 7-5	7			
TOTAL	2704	2707	2636	2530
Q_1	8 - 8.0	9 - 7.8	10 - 7.5	11 - 7.2
Median	9 - 0.9	10 - 0.8	11 - 1.1	12 - 1.5
Q_3	9 - 8.1	10 - 8.5	11 - 9.5	12 - 10.5

TABLE VI

READING ABILITY IN THE HIGH THIRD, HIGH FOURTH, HIGH FIFTH AND HIGH SIXTH GRADES

November 1930

Age Range	Grade 3B	Grade 4B	Grade 5B	Grade 6B
18-0 to 18-5				3
17-6 to 17-11				3
17-0 to 17-5		1	1	24
16-6 to 16-11		1	7	43
16-0 to 16-5		3	24	83
15-6 to 15-11		8	50	147
15-0 to 15-5		9	58	118
14-6 to 14-11		17	74	127
14-0 to 14-5		9	45	100
13-6 to 13-11		24	112	187
13-0 to 13-5		34	128	183
12-6 to 12-11		119	268	329
12-0 to 12-5		117	291	266
11-6 to 11-11	12	340	459	337
11-0 to 11-5	89	433	397	233
10-6 to 10-11	219	569	349	177
10-0 to 10-5	333	362	166	89
9-6 to 9-11	483	272	116	43
9-0 to 9-5	494	168	62	23
8-6 to 8-11	324	118	21	11
8-0 to 8-5	286	64	5	4
7-6 to 7-11	160	18	2	
7-0 to 7-5	118	21	1	
6-6 to 6-11	90			
Less than 6-6	96			
TOTAL	2704	2707	2636	2530
Q_1	8 - 3.9	9 - 11.7	10 - 10.4	11 - 6.4
Median	9 - 2.9	10 - 9.0	11 - 8.1	12 - 7.0
Q_3	9 -11.2	11 - 5.6	12 - 7.9	14 - 0.4

TABLE VII

ARITHMETIC ABILITY IN THE HIGH THIRD, HIGH FOURTH, HIGH FIFTH AND HIGH SIXTH GRADES

November 1930

Age Range	Grade 3B	Grade 4B	Grade 5B	Grade 6B
18-0 to 18-5				1
17-6 to 17-11				
17-0 to 17-5			1	2
16-6 to 16-11				10
16-0 to 16-5			4	31
15-6 to 15-11			3	59
15-0 to 15-5			11	85
14-6 to 14-11			27	126
14-0 to 14-5			42	113
13-6 to 13-11		1	72	202
13-0 to 13-5		1	114	229
12-6 to 12-11		4	219	345
12-0 to 12-5		25	271	305
11-6 to 11-11	1	173	513	479
11-0 to 11-5	23	545	598	301
10-6 to 10-11	212	840	434	146
10-0 to 10-5	357	452	1o2	53
9-6 to 9-11	634	339	116	26
9-0 to 9-5	710	203	36	13
8-6 to 8-11	391	69	7	1
8-0 to 8-5	184	32	5	2
7-6 to 7-11	76	10	1	1
7-0 to 7-5	57	13		
6-6 to 6-11	26			
Less than 6-6	33			
TOTAL	2704	2707	2636	2530
Q_1	8 - 10.1	9 - 11.6	10 - 10.1	11 - 6.6
Median	9 - 4.5	10 - 7.2	11 - 5.1	12 - 4.3
Q_3	9 - 10.7	11 - 0.3	12 - 1.8	13 - 5.4

FIGURE I

HIGH THIRD GRADE -- 70 SCHOOLS			
Age Range	Median Chronological Ages	Median Reading Ages	Median Arithmetic Ages
10-9 - 10-11			x
10-6 - 10-8	x		
10-3 - 10-5		x	
10-0 - 10-2		xxxx	xxxxx
9-9 - 9-11	x	xxxxxx	xxxxxx
9-6 - 9-8	xxx	xxxxxxxxxxxxx	xxxxxxxxxxxxxxx
9-3 - 9-5	xxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxx
9-0 - 9-2	xxxxxxxxxxxxxxxxxxx	xxxxxx	xxxxxxxxxxxxx
8-9 - 8-11	xxxxxxxxxxxxxxxxxxx	xxxxxxxx	xxxxxx
8-6 - 8-8	xxx	xxxx	x
8-3 - 8-5		xx	x
8-0 - 8-2		xxx	xx
7-9 - 7-11			
7-6 - 7-8		x	
7-3 - 7-5			x
7-0 - 7-2		xx	
	Years - Months	Years - Months	Years - Months
Q_1	8 - 10.5	8 - 10.3	9 - 1.0
Median	9 - 0.9	9 - 3.8	9 - 4.3
Q_3	9 - 3.4	9 - 7.2	9 - 7.5

Note: x = Class Median for one school.

CHRONOLOGICAL AGE, READING AGE AND ARITHMETIC AGE MEDIANS FOR THE HIGH THIRD GRADE

November 1930 Survey

FIGURE II

HIGH FOURTH GRADE -- 72 SCHOOLS			
Age Range	Median Chronological Ages	Median Reading Ages	Median Arithmetic Ages
12-6 and over	x		
12-3 - 12-5			
12-0 - 12-2			
11-9 - 11-11		x	
11-6 - 11-8			x
11-3 - 11-5		x	x
11-0 - 11-2		x	x
10-9 - 10-11	x	x	x
10-6 - 10-8	x	x	x
10-3 - 10-5	x	x	x
10-0 - 10-2	x	x	x
9-9 - 9-11	x	x	x
9-6 - 9-8	x	x	x
9-3 - 9-5		x	x
9-0 - 9-2		x	x
8-9 - 8-11		x	
	Years - Months	Years - Months	Years - Months
Q_1	9 - 10.0	10 - 4.8	10 - 3.5
Median	10 - 0.4	10 - 8.7	10 - 6.7
Q_3	10 - 3.6	11 - 0.5	10 - 9.3

Note: x = Class Median for one school.

CHRONOLOGICAL AGE, READING AGE AND ARITHMETIC AGE MEDIANS FOR THE HIGH FOURTH GRADE

November 1930 Survey

FIGURE III

HIGH FIFTH GRADE -- 72 SCHOOLS			
Age Range	Median Chronological Ages	Median Reading Ages	Median Arithmetic Ages
14-6 and over	x		
14-3 - 14-5		x	
14-0 - 14-2			
13-9 - 13-11			
13-6 - 13-8			
13-3 - 13-5	x	x	
13-0 - 13-2		xx	x
12-9 - 12-11		xx	xx
12-6 - 12-8		xxxxx	xx
12-3 - 12-5		xxxxxxx	
12-0 - 12-2	xx	xxxx	xxxxx
11-9 - 11-11	xx	xxxxxxxxxxxxxxxxx	xxxxxxxxx
11-6 - 11-8	xxxxxxxxx	xxxxxxxx	xxxxxxxxxx
11-3 - 11-5	xxxxxxxxxxxx	xxxxxxxxx	xxxxxxxxxxxxxx
11-0 - 11-2	xxxxxxxxxxxxx	xxxxxxxx	xxxxxxxxxxxxx
10-9 - 10-11	xxxxxxxxxxxxxxxxxxxxxx	xx	xxxxxxxxx
10-6 - 10-8	xxxxxx	xxx	xx
10-3 - 10-5		xx	x
10-0 - 10-2			
9-9 - 9-11		x	
	Years - Months	Years - Months	Years - Months
Q_1	10 - 10.0	11 - 3.1	11 - 0.5
Median	11 - 0.8	11 - 8.9	11 - 4.4
Q_3	11 - 4.8	12 - 2.5	11 - 9.1

Note: x = Class Median for one school.

CHRONOLOGICAL AGE, READING AGE AND ARITHMETIC AGE MEDIANS FOR THE HIGH FIFTH GRADE

November 1930 Survey

FIGURE IV

HIGH SIXTH GRADE -- 68 SCHOOLS			
Age Range	Median Coronological Ages	Median Reading Ages	Median Arithmetic Ages
15-0 - 15-2		x	x
14-9 - 14-11	x	xx	
14-6 - 14-8		x	
14-3 - 14-5		x	x
14-0 - 14-2		xx	x
13-9 - 13-11		x	x
13-6 - 13-8		xxxxx	x
13-3 - 13-5		xxxxxx	xxx
13-0 - 13-2	xxx	xxxx	xxxx
12-9 - 12-11	xxx	xxxxxx	xxxxxxxxxx
12-6 - 12-8	xxxxxxx	xxxxxxxxx	xxxxxx
12-3 - 12-5	xxxxxxxxx	xxxxxx	xxxxxxxx
12-0 - 12-2	xxxxxxxxxxxxxxxxxx	xxxxx	xx
11-9 - 11-11	xxxxxxxxxxxxxxxxxxx	xxxxxxxx	xxxxxxxxxxxx
11-6 - 11-8	xxxxxx		xxxxxxxxx
11-3 - 11-5		xxx	xxxx
11-0 - 11-2		xxxxx	x
10-9 - 10-11			
10-6 - 10-8			
10-3 - 10-5		x	
	Years - Months	Years - Months	Years - Months
Q_1	11 - 10.1	11 - 11.2	11 - 8.7
Median	12 - 0.8	12 - 7.0	12 - 3.5
Q_3	12 - 4.5	13 - 3.5	12 - 10.0

Note: x = Class Median for one school

CHRONOLOGICAL AGE, READING AGE AND ARITHMETIC AGE MEDIANS FOR THE HIGH SIXTH GRADE

November 1930 Survey

Bulletin #26

SAN FRANCISCO PUBLIC SCHOOLS
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AGE AND MENTAL ABILITY OF PUPILS LEAVING THE HIGH EIGHTH GRADES OF SAN FRANCISCO ELEMENTARY SCHOOLS
November 1930 Survey

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AGE AND MENTAL ABILITY OF PUPILS LEAVING THE HIGH EIGHTH GRADES OF SAN FRANCISCO ELEMENTARY SCHOOLS
November 1930 Survey

A Terman Group Test of Mental Ability is administered at the close of each term to pupils leaving the high eighth grades of the San Francisco elementary schools. The summaries which follow deal with the chronological ages and mental abilities of the pupils leaving the high eighth grades to enter senior high school in January 1931.

Figure 1 shows graphically the distribution of chronological and mental ages of the 1070 eighth grade pupils leaving the San Francisco elementary schools at the end of the fall term 1930. It will be observed that the unbroken line representing mental ages exceeds the range of the solid line representing chronological ages. The median of the mental ages exceeds that of the chronological ages by 2.7 months. Pupils entering senior high school range in mental ability from 10 years to more than 18 years. In terms of grade placement, abilities from the fifth grade of elementary to the senior year of high school are present.

Table I which follows shows the range of chronological ages for each elementary school with its respective median. Table II does the same for mental ages. Great variability in class medians is shown. Mental age again shows a wider spread than chronological age. The extent of this spread is shown in Figure 2 where the chronological age medians and the mental age medians may be compared.

SUMMARY AND CONCLUSIONS

1. The median mental age of pupils leaving the high eighth grade of San Francisco elementary schools is 2.7 months higher than the median chronological age.

2. The range of mental ability exceeds that of chronological age in pupils of the high eighth grade by three years.

3. Fifth to twelfth grade abilities are shown by pupils entering the senior high school.

4. The above facts call attention to the great need for educational guidance in our senior high schools.

5. The large number of pupils at the lower end of the scale should not only be limited in their election of subjects but placed in classes carefully selected on the basis of their needs and abilities.

6. The spread of ages and abilities shown in this summary demands a high school curriculum not only rich in its offerings but sufficiently flexible for the demands made upon it by such a widely varying group.

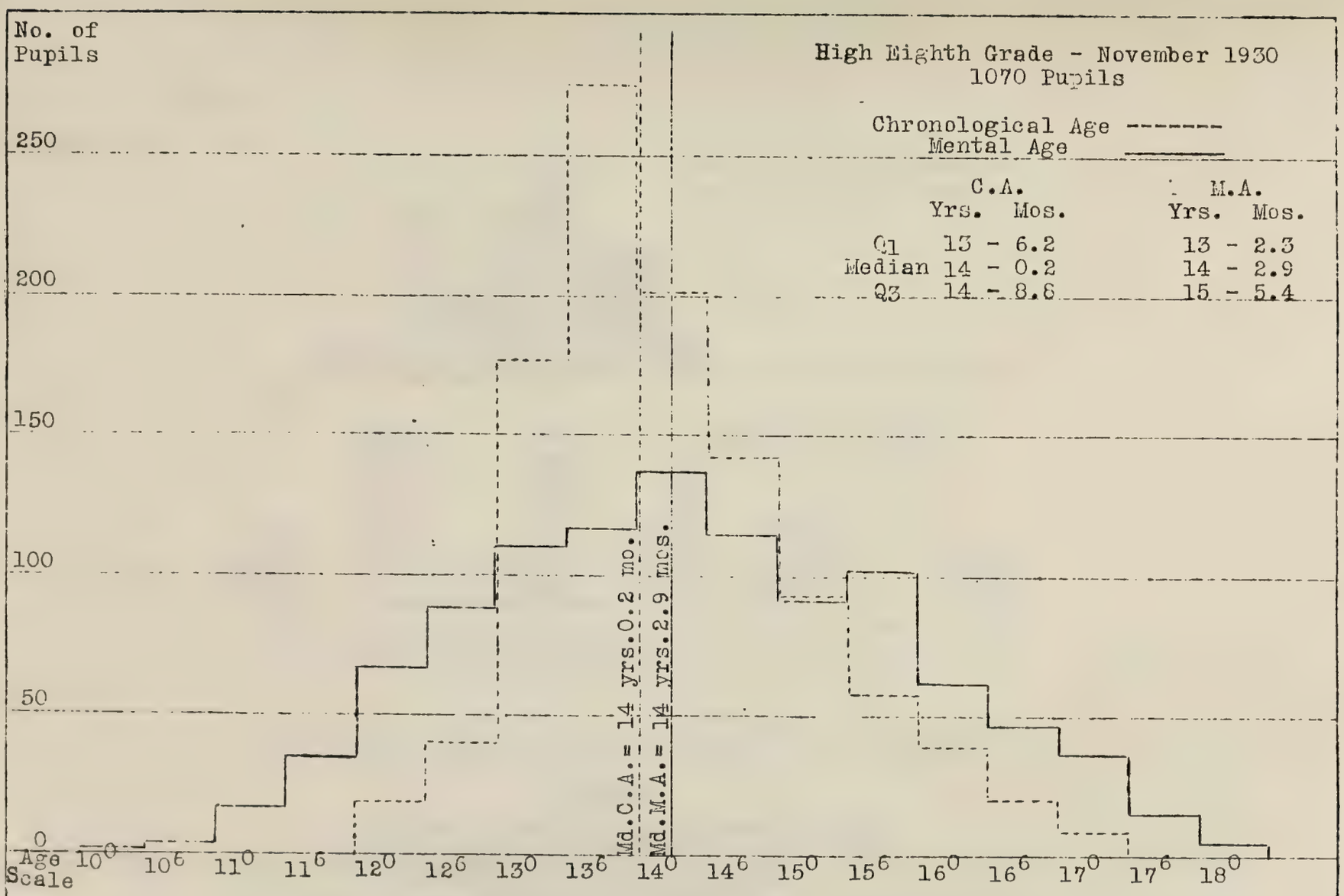

FIG. 1 CHRONOLOGICAL AND MENTAL AGE DISTRIBUTION OF HIGH EIGHTH GRADE PUPILS - SAN FRANCISCO ELEMENTARY SCHOOLS November 1930

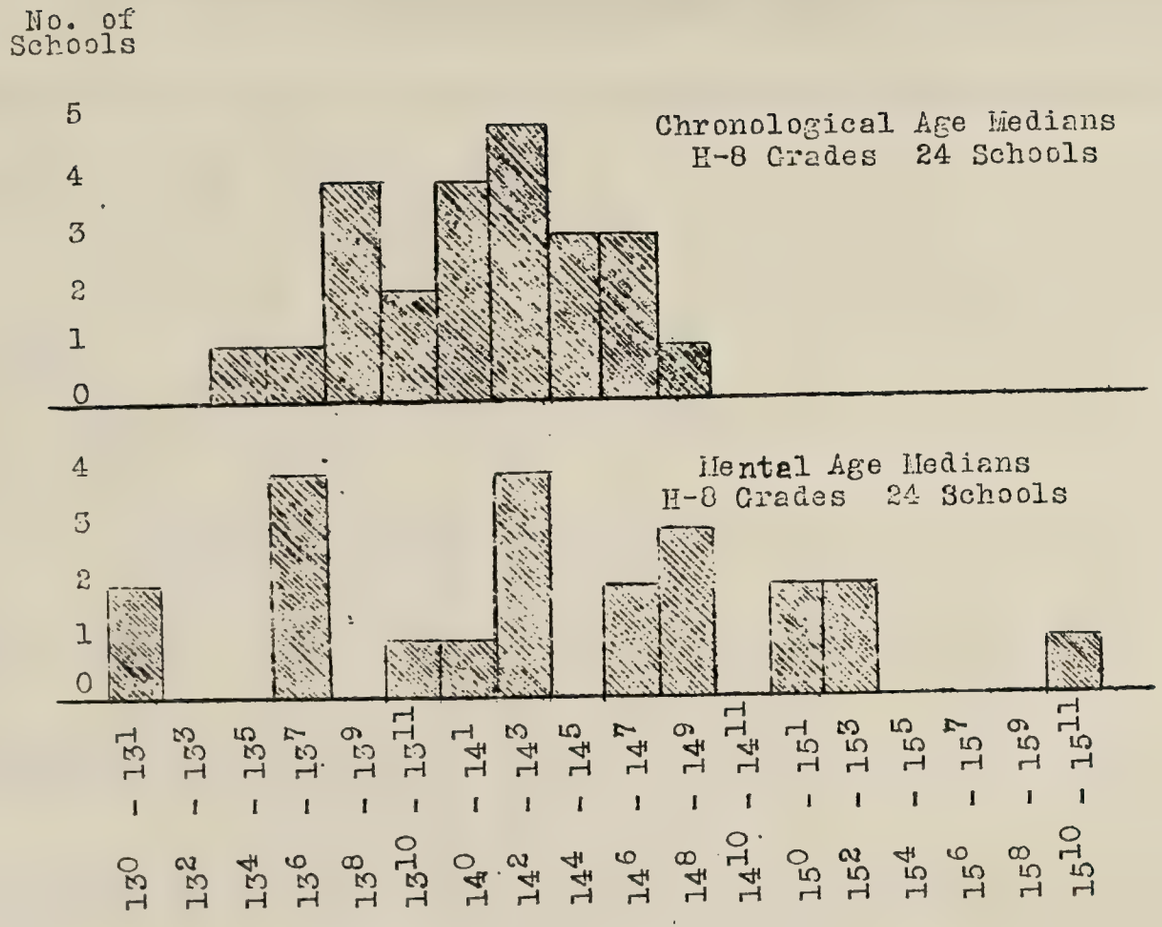

FIGURE 2

MEDIAN CHRONOLOGICAL AND MENTAL AGES
FOR CLASSES LEAVING THE HIGH EIGHTH GRADES
OF SAN FRANCISCO PUBLIC SCHOOLS
November 1930 Survey

TABLE I
DISTRIBUTION OF CHRONOLOGICAL AGES
HIGH EIGHTH GRADES - SAN FRANCISCO ELEMENTARY SCHOOLS
1070 Pupils - November 1930

School	12^{0}-12^{5}	12^{6}-12^{11}	13^{0}-13^{5}	13^{6}-13^{11}	14^{0}-14^{5}	14^{6}-14^{11}	15^{0}-15^{5}	15^{6}-15^{11}	16^{0}-16^{5}	16^{6}-16^{11}	17^{0} +	Total	Median
Bay View	-	-	4	9	6	17	3	6	4	6	1	56	14-8.7
Bernal	-	1	3	5	10	6	3	5	4	2	-	39	14-6.0
Commodore Sloat	-	4	19	25	19	7	2	1	1	-	-	78	13-9.3
Dudley Stone	-	-	7	14	9	4	2	1	3	1	1	42	13-11.5
Fairmount	-	3	8	16	12	11	6	3	3	1	1	64	14-2.0
Farragut	-	1	3	8	4	6	7	1	2	-	-	32	14-5.5
Francis Scott Key	-	1	5	4	3	1	5	-	1	-	-	20	13-11.5
Glen Park	1	-	6	8	3	4	5	2	3	2	-	34	14-3.5
Grant	1	2	9	17	6	2	-	-	-	-	-	37	13-7.8
Grattan	-	1	6	13	11	5	1	-	-	-	-	37	13-10.8
Guadalupe	-	-	1	8	5	9	2	3	2	1	-	31	14-6.5
Jefferson	0	2	24	12	4	4	1	3	1	-	-	57	13-4.6
Laguna Honda	-	1	7	9	11	5	7	3	1	-	-	44	14-2.2
Longfellow	1	-	5	6	5	6	6	2	2	-	-	33	14-4.9
Monroe	2	3	9	24	25	12	11	6	6	2	-	100	14-2.4
Pacific Heights	3	4	10	11	10	1	2	-	1	-	1	43	13-7.9
Parkside	1	5	10	8	6	3	2	-	-	-	-	35	13-6.6
Redding	-	2	5	20	8	7	7	3	1	-	-	53	13-10.8
Sheridan	-	-	1	7	6	3	2	2	-	2	-	23	14-3.0
Sherman	1	4	11	11	17	7	6	5	5	-	1	68	14-2.0
Spring Valley	2	1	7	9	3	5	3	5	2	1	1	39	14-0.5
Sunnyside	-	2	6	9	4	1	-	1	-	-	-	23	13-7.8
Visitacion Valley	-	2	6	5	4	2	1	2	-	-	-	22	13-9.1
Yerba Buena	1	1	5	16	10	9	9	3	2	2	2	60	14-3.7
Total	19	40	177	274	201	137	95	57	44	20	8	1070	14-0.2

Q_1 = 13 yrs. 6.2 mos. Md. = 14 yrs. 0.2 mos. Q_3 = 14 yrs. 9.5 mos.

TABLE II
DISTRIBUTION OF MENTAL AGES
HIGH EIGHTH GRADES - SAN FRANCISCO ELEMENTARY SCHOOLS
1070 Pupils - November 1930

School	10^{0}-10^{5}	10^{6}-10^{11}	11^{0}-11^{5}	11^{6}-11^{11}	12^{0}-12^{5}	12^{6}-12^{11}	13^{0}-13^{5}	13^{6}-13^{11}	14^{0}-14^{5}	14^{6}-14^{11}	15^{0}-15^{5}	15^{6}-15^{11}	16^{0}-16^{5}	16^{6}-16^{11}	17^{0}-17^{5}	17^{6}-17^{11}	18^{0}-18^{5}	Total	Median
Bay View	1	-	3	8	7	8	10	5	7	3	1	1	1	1				56	13-0.1
Bernal	-	-	1	-	4	7	6	5	6	4	3	3	-	-				39	13-7.3
Commodore Sloat	-	-	-	-	1	3	9	3	10	9	9	12	12	6	-	3	1	78	15-2.2
Dudley Stone	-	-	-	1	-	-	4	8	7	5	2	6	4	3	2	-	-	42	14-6.7
Fairmount	-	-	1	-	7	8	8	6	10	10	4	5	3	2	-	-	-	64	14-0.7
Farragut	-	-	-	-	4	5	7	3	3	2	3	3	1	1	-	-	-	32	13-5.5
F. S. Key	-	-	-	-	-	-	-	5	5	2	-	3	2	1	-	2	-	20	14-5.5
Glen Park	-	-	1	3	3	4	5	3	8	3	1	2	1	-	-	-	-	34	13-7.5
Grant	-	-	-	-	1	-	3	4	3	5	9	2	2	4	2	2	-	37	15-1.2
Grattan	-	-	-	-	1	-	1	4	7	3	4	1	2	8	4	2	-	37	15-3.3
Guadalupe	-	-	-	1	1	4	5	7	5	4	1	2	-	1	-	-	-	31	13-9.3
Jefferson	-	-	1	-	1	1	6	5	7	5	13	7	5	4	2	-	-	57	15-0.6
Laguna Honda	-	-	-	-	1	2	2	3	5	4	9	6	4	2	2	2	2	44	15-2.8
Longfellow	-	1	-	2	5	4	4	5	5	5	1	-	-	1	-	-	-	33	13-6.1
Monroe	-	1	5	8	13	17	24	11	6	5	3	5	1	1	-	-	-	100	13-1.0
Pacific Heights	-	1	-	2	1	-	-	1	2	1	1	11	12	3	7	1	-	43	16-0.2
Parkside	-	-	-	1	3	1	3	1	4	10	5	4	-	-	3	-	-	35	14-8.2
Redding	-	-	-	2	1	2	4	7	7	10	7	5	3	3	1	1	-	53	14-7.6
Sheridan	-	-	-	1	2	2	1	3	5	6	2	1	-	-	-	-	-	23	14-2.5
Sherman	1	1	1	2	3	2	8	9	4	5	7	11	4	2	7	-	1	68	14-9.1
Spring Valley	-	-	-	-	-	4	3	11	6	10	-	-	1	-	2	2	-	39	14-1.0
Sunnyside	-	-	-	1	-	-	1	3	4	1	3	8	1	-	1	-	-	23	14-2.5
Visitacion Valley	-	-	-	-	2	2	2	4	2	3	-	3	1	1	1	-	1	22	14-2.5
Yerba Buena	-	-	4	2	5	12	4	11	8	4	3	1	2	2	2	-	-	60	13-7.1
Total	2	4	17	34	66	88	120	127	136	119	91	102	62	46	36	15	5	1070	14-2.9

Q_1 = 13 yrs. 2.3 mos. Md. = 14 yrs. 2.9 mos. Q_3 = 15 yrs. 5.4 mos.

Bulletin no. 27

San Francisco (Calif.) Board of Education.
Bureau of Research [illegible]

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

READING ABILITY IN THE LOW SECOND GRADE AS MEASURED BY THE GATES PRIMARY READING TESTS

Fall Term - 1931

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BULLETIN No. 27

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READING ABILITY IN THE LOW SECOND GRADE AS MEASURED BY THE GATES PRIMARY READING TESTS

Fall Term - 1931

The earliest survey of achievement in the San Francisco public schools is made at the end of the low second grade, when each pupil is tested in two phases of reading. This summary deals with the reading ability of the pupils leaving the low second grade as determined by the average of the scores made on Types 2 and 3 of the Gates Primary Reading Test. Type 2 measures ability to read words, phrases and sentences. Type 3 measures the ability to read paragraphs of directions.

Table I which follows shows how the pupils of the low second grade are distributed in chronological age and reading ability. The intervals at the left indicate the range of chronological age and reading ability. The summary at the bottom of the table gives the median and the upper and lower limit of the middle 50 per cent, Q_1 and Q_3 respectively. The median chronological age of the pupils tested is 7 years 5.3 months. The youngest quarter of the pupils are below 7 years 2.5 months in chronological age while the oldest quarter exceed 7 years 10.8 months. Fifty per cent of the pupils are included within an age span of 8.3 months. The reading age median of 7 years 7 months exceeds the chronological age median by 1.7 months. The highest quarter of the pupils reach or exceed abilities of 8 years 2.6 months while the lowest quarter fail to reach a reading age of 7 years 1.6 months.

While the median reading ability exceeds the chronological age norm, the standard to be expected of low second grade pupils, the lowest quarter will find difficulty in the work of the next grade and will succeed only with definite remedial treatment. The 400 pupils making up the lowest eighth in reading ability do not show sufficient ability for success beyond the high first grade. Approximately half of these failed to score on one or both of their tests, which would indicate that they are in so far as the test can determine,"non-readers". These pupils of exceptionally low reading ability appear most frequently in schools having large foreign populations, but scattered cases exist throughout the city.

Chart I upon which the chronological and reading age medians of 73 schools are distributed, calls attention to the wide variability existing in the low second grades of the city. At one extreme, we find the median reading age high enough for success in the high third grade. At the other, ability to succeed in the low second is doubtful. The spread of chronological ages is not so great; however, more than a year's difference exists between the medians of the oldest and youngest classes.

TABLE I

Chronological Age and Reading Ability in the Low Second Grade

November 1930

Age Range	Chron. Age	Reading Age
11-6 and over	6	
11-3 to 11-5	-	
11-0 to 11-2	-	
10-9 to 10-11	2	
10-6 to 10-8	4	
10-3 to 10-5	4	
10-0 to 10-2	6	
9-9 to 9-11	10	
9-6 to 9-8	18	2
9-3 to 9-5	28	34
9-0 to 9-2	40	256
8-9 to 8-11	83	173
8-6 to 8-8	113	208
8-3 to 8-5	161	132
8-0 to 8-2	212	274
7-9 to 7-11	341	293
7-6 to 7-8	527	465
7-3 to 7-5	792	369
7-0 to 7-2	660	558
6-9 to 6-11	149	212
6-6 to 6-8	31	39
Under 6-6	9	181
Total	3196	3196
	Yrs. Mos.	Yrs. Mos.
Q_1	7 - 2.5	7 - 1.6
Median	7 - 5.3	7 - 7.0
Q_3	7 -10.5	8 - 2.6

CHART I

Distribution of Chronological and Reading Age Medians in the Low Second Grade - 73 Schools

November - 1930

Yrs. Mos.	Median Chron. Ages	Median Read. Ages
8 - 5 +		xxxxx
8 - 5		
8 - 4	x	x
8 - 3		
8 - 2	x	xxx
8 - 1		xx
8 - 0		xx
7 - 11	xx	xxxxxxx
7 - 10	xx	xxxxx
7 - 9	xxxxxx	xx
7 - 8	xxxxxxxx	xxxx
7 - 7	xxxxx	xxxxxxxxxx
7 - 6	xxxxxxxxxx	xxxx
7 - 5	xxxxxxxxxxx	xxxx
7 - 4	xxxxxxxxxxxxxxxxxxx	xxxxx
7 - 3	xxxxx	xxxxxx
7 - 2	xx	xxxxxxxx
7 - 1		xxx
7 - 0		x
7 - 0 —		x
Q_1	7 yrs. 3.9 mos.	7 yrs. 3.4 mos.
Median	7 yrs. 5.4 mos.	7 yrs. 6.9 mos.
Q_3	7 yrs. 7.7 mos.	7 yrs.10.7 mos.

San Francisco is aware that one of its major problems is to provide pupils from non-English speaking homes with a reading comprehension that will enable them to meet the demands of each successive grade. In order to overcome this handicap a remedial program has been set into action which will reach every pupil of low reading ability in the primary grades, regardless of the source of his disability.

The steps in this remedial program follow:

1. Selecting pupils who are slow in learning to read, on the basis of objective tests.

2. Discovering the cause or causes of their reading disability.

3. Providing teachers with aids and materials to raise the achievement of the pupils.

The records of the primary reading tests are analyzed and summarized by the Department of Educational Research and Service. Through the cooperation of Miss Estes, Acting Supervisor of the Primary Grades, every school has been notified relative to the low reading abilities among the pupils tested. More than a hundred primary teachers have enrolled in extension courses in which reading ability in the primary grades is being stressed.

By our semi-annual survey of reading ability in the low second grade we hope to reach every pupil in the San Francisco public schools who is in need of special remedial attention in reading. While we cannot hope to bring every pupil to normal reading ability we feel that every pupil will be given an opportunity to develop to the limit of his general ability, under our present program.

Through this city-wide remedial program in the field of primary reading, it is believed that many failures will be averted and that the standard of all work in the upper elementary grades will be raised. The teachers who are participating in this program are to be commended on their interest and effort in this very worth while enterprise. We hope at a later date to show them the favorable results of their good work.

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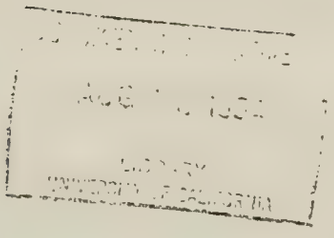

THE WRITTEN EXAMINATION FOR APPLICANTS FOR JUNIOR AND SENIOR HIGH SCHOOL POSITIONS

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Bulletin No. 28

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SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

July 15, 1931

THE WRITTEN EXAMINATION FOR APPLICANTS FOR JUNIOR AND SENIOR HIGH SCHOOL POSITIONS

In April, 1931, the San Francisco Board of Education adopted a plan of teacher selection for the secondary schools which included a written examination. The plan was to replace a method of selection based on credential rating, successful experience and a personal interview. The addition of the written examination will make the basis of selection of secondary teachers resemble that used for the elementary teachers and which has been practiced successfully for several years.

The written examination as approved, covered the following fields:

a. English Usage
b. The World Today
c. School and Classroom Procedure

Each examination carried a value of 100 points on the total competitive examination, bearing the following relation to the total:

1.	Written Examination	300 points
2.	Amount of Training and Experience	200 "
3.	Quality of Training and Experience	300 "
4.	Personal Interviews	200 "
	Total	1000 points

While each applicant who was not already employed by the San Francisco Public Schools was required to take this examination, the record made was compared only with applicants in his own field, i. e., English teachers competed only with English teachers, industrial arts teachers with industrial arts teachers, etc. The combined rating on sections 1, 2, and 3 above, determined the candidates' eligibility to the oral examination. Two times the number estimated to be needed for each subject will be chosen from those standing highest in each subject list.

Construction of the Written Examination

The written examination was constructed by the superintendent of schools, deputy superintendents, and the Department of Research. The steps in the construction of the examination follow:

1. Each of the three fields to be covered was broken into logical and convenient units by the director of the research department.

2. Each member of the research staff was assigned units from each of the three fields with the instruction to write at least two times the number of questions needed. These questions were to be of the objective type.

3. The deputy superintendents then selected from the total number of questions, the number to be included in the examination in its final form. The final form contained 100 questions in each of the three fields.

4. The examination was then approved by the superintendent.

Administration of Examination

The examination was conducted by the Department of Personnel at the High School of Commerce, May 16, 1931. There were 656 applicants competing. Candidates for positions in each of the following fields were present:

Drawing and Art
Commercial
English
Social Sciences
Home Economics
French
Italian
Spanish
Latin
German
Library
Mathematics
Choral Music
Instrumental Music
Boys' Physical Education
Girls' Physical Education
Science
Industrial Arts

No names appeared on the examination papers, the only identification being a code number which corresponded to the candidate's name in a sealed envelope bearing the same number.

Treatment of Results

The correction of papers was carried on by the clerical assistants of the research department under the supervision of a staff member. Each paper was corrected by two scorers independently, and a third, final check was added by a third person. These precautions added to an examination which in its initial form is purely objective, insure absolute accuracy of results.

After the papers were corrected, the raw scores made by the applicants were distributed in order to find the range and the extent of abilities in each of the three fields. Figure I, which follows, shows this distribution. (See Figure I, next page.)

The medians and the complete ranges of the examinations follow:

Subject	Median Score	Range of Score
English	61	12 to 93
The World Today	54	17 to 86
Teaching Method and Procedure	36	0 to 70

In order to give these examinations equal weight in the total examination they were re-distributed on the plan utilized in the elementary examination. Under this plan the following distribution is made:

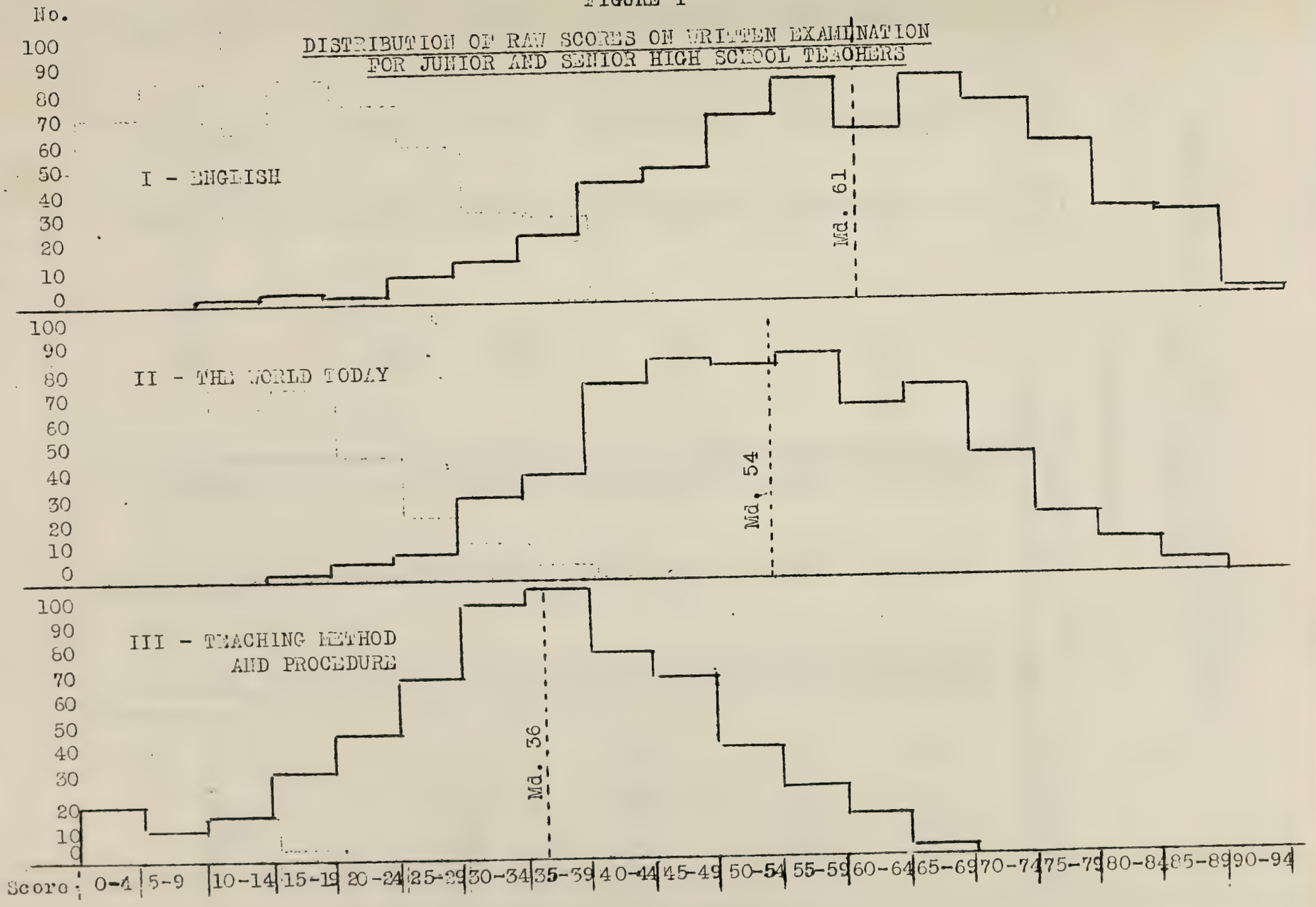
Final Grade	Per Cent
95 to 100	5
90 to 94	10
85 to 89	10
80 to 84	10
75 to 79	15
70 to 74	15
65 to 69	10
60 to 64	10
55 to 59	10
50 to 54	5

This will give the highest raw score in each examination a final grade of 100; the median score, 75; and the lowest score, 50.

The distributions which follow show the raw scores with their equivalents, and the nature of the distribution from which they were derived.

FIGURE I

DISTRIBUTION OF RAW SCORES ON WRITTEN EXAMINATION FOR JUNIOR AND SENIOR HIGH SCHOOL TEACHERS



Distribution of Raw Scores According to Percentage Distribution Method Used in Elementary Teachers' Examinations

I- ENGLISH USAGE

Raw Score	Final Score	Frequency		Distribution
93	100	1		
91	99	1		
90	98.5	1		
89	98	5		5%
88	97.5	4	33	(95-100)
87	97	1		
86	96.5	7		
85	96	10		
84	95	7		
83	94	6		
82	93.5	4		
81	93	6		
80	92.5	6		10%
79	92	8	65	(90-94)
78	91.5	10		
77	91	10		
76	90	22		
75	89	10		
74	88	11		10%
73	87	18	65	(85-89)
72	86	15		
71	84	13		
70	83	19		10%
69	82	20	68	(80-84)
68	81	16		
67	79	15		
66	78	15		
65	77.5	21		
64	77	10		15%
63	76.5	12	101	(75-79)
62	76	15		
61	75	13		
60	74	16		
59	73	20		
58	72	19		15%
57	71.5	25	102	(70-74)
56	71	12		
55	70	10		
54	69	19		
53	68	12		10%
52	67	10	62	(65-69)
51	66	21		
50	64	10		
49	63	10		
48	62.5	9		10%
47	62	11		(60-64)
46	61.5	14	66	
45	61	3		
44	60	9		
43	59.5	6		
42	59	10		
41	58.5	8		
40	58	9		
39	57.5	3		10%
38	57	5	63	(55-59)
37	56.5	8		
36	56	7		
35	55.5	3		
34	55	5		
33	54.5	6		
32	54	2		
31	53.5	3		
30	53	1		
29	52.5	4		5%
28	52	3	30	(50-54)
27	51.5	2		
26	51	2		
22	50.5	1		
21-	50	6		

Distribution of Raw Scores According to Percentage Distribution Method Used in Elementary Teachers' Examinations

II - THE WORLD TODAY

Raw Score	Final Score	Frequency	Distribution
86	100	3	
85	99.5	2	
84	99	2	
83	98.5	2	
82	98	3	
81	97.5	4	5%
80	97	3	33 (95-100)
79	96.5	3	
78	96	3	
77	95.5	4	
76	95	9	
75	94	5	
74	93.5	5	
73	93	7	10%
72	92.5	10	62 (90-94)
71	92	7	
70	91	9	
69	90	14	
68	89	16	
67	88	13	
66	87	17	10%
65	86	15	65 (85-89)
64	85	7	
63	84	14	
62	83	16	10%
61	82	16	63 (80-84)
60	81	14	
59	80	13	
58	79	17	
57	78	21	15%
56	77	20	97 (75-79)
55	76	17	
54	75	17	
53	74	21	
52	73	17	
51	72	14	15%
50	71	15	99 (70-74)
49	70	16	
48	69	18	
47	68	22	
46	67	12	10%
45	66	18	67 (65-69)
44	65	24	
43	63	17	
42	62	11	10%
41	61	10	63 (60-64)
40	60	15	
39	59	8	
38	58	7	
37	57.5	7	
36	57	12	10%
35	56.5	7	65 (55-59)
34	56	10	
33	55	6	
32	54.5	10	
31	54	4	
30	53.5	3	
29	53	2	
28	52.5	4	5%
27	52	2	36 (50-54)
26	51.5	1	
25	51	1	
24	50.5	1	
23 -	50	8	

Distribution of Raw Scores According to Percentage Distribution Method Used in Elementary Teachers' Examination

III - TEACHING METHOD AND PROCEDURE

Raw Score	Final Score	Frequency	Distribution
70	100	1	
66	99.5	3	
64	99	2	
63	98.5	3	
62	98	3	
61	97.5	5	5 %
60	97	3	34 (95-100)
59	96.5	2	
58	96	4	
57	95.5	3	
56	95	~~10~~	
55	94	8	
54	93	9	
53	92.5	5	
52	92	8	10%
51	91.5	12	63 (90-94)
50	91	10	
49	90	~~12~~	
48	88	16	
47	87	17	10%
46	86	15	66 (85-89)
45	85	12	
44	84	19	
43	83	16	10%
42	82	17	66 (80-84)
41	81	14	
40	79	15	
39	78	20	
38	77	24	15%
37	76	20	100 (75-79)
36	75	21	
35	74	21	
34	73	21	15%
33	72	23	95 (70-74)
32	71	16	
31	70	14	
30	69	26	
29	68	18	10%
28	67	16	67 (65-69)
27	66	~~14~~	
26	65	16	
25	64	7	10%
24	63	12	67 (60-64)
23	62	15	
22	61	10	
21	60	7	
20	59.5	6	
19	59	9	
18	58.5	10	
17	58	6	10%
16	57.5	2	65 (55-59)
15	57	8	
14	56.5	5	
13	56	4	
12	55.5	5	
11	55	3	
9	54.5	1	
8	54	4	
7	53.5	2	
6	53	2	
5	52.5	3	5%
4	52	5	33 (50-54)
3	51.5	4	
2	51	2	
1	50.5	3	
0	50	7	

After the completion of the steps herein described, the personnel department will combine the written examination record with the applicant's other ratings in order to determine those eligible to the oral examination.

Bulletin 29

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

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RESUME OF ACTIVITIES

1930 - 1931

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Bulletin No. 29
July - 1931

Superintendent of Schools
Joseph Marr Gwinn

Director
Robert Floyd Gray

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

July 15, 1931

RESUME OF ACTIVITIES - 1930-1931

The Department of Educational Research and Service is the fact-finding department of the public schools. The department aims to cooperate with members of the Superintendent's staff, principals, and teachers. All activities of the department are initiated by the superintendent, by deputy superintendents, or by the director. The following report is a summary of activities for the fiscal year 1930-31.

Specific Functions

Compilation of annual, federal, state, and city reports.
Enrollment and attendance statistics, and child accounting.
Administrative research.
Building surveys, building program analyses, and evaluation of school building plans.
Measurement of curriculum achievement.
Research in curriculum revision.
Text book appraisal.
Experimental studies in teaching procedure.
Comprehensive achievement and mental surveys.
Tests and measurements.
Classification and grouping of pupils.
Personnel research.
Training of teaching staff in the use of standard intelligence and achievement tests.

The Superintendent's annual report for the year ending June 30, 1930, pages 52 and 53, gives an account of the department's activities for the year ending June 30, 1930.

The following studies have been completed during the year, July 1, 1930—June 30, 1931.

I. ENROLLMENT, ATTENDANCE, CHILD ACCOUNTING

1. Interpretations of attendance statistics.
2. Preparation of the annual reports to the federal government, state department of education, and superintendent's office.
3. Summary of attendance statistics, 1919-20 to 1929-30.
4. Promotion and non-promotion reports of elementary pupils for the years 1929-30 and 1930-31.
5. Reorganization of the method of handling monthly statistical reports.
6. Comparative summaries of attendance figures.
7. Monthly comparison of per cents of attendance by schools.

II. BUILDING SURVEYS, BUILDING PROGRAM ANALYSES, and EVALUATION OF BUILDING PLANS.

1. Survey of elementary school building needs.
2. A study of the utilization of San Francisco high school buildings.
3. Study of the elementary school building needs in Miraloma Park.
4. A study of the advisability of the need for retention of the Hillcrest school and the Twin Peaks school.
5. Survey of Daniel Webster building needs.
6. Survey of Longfellow school building needs.
7. Study of factors bearing on the size of the Horace Mann school.
8. Survey to determine facilities required for Bernal junior high school.
9. Survey to determine facilities required for George Washington high school.
10. Survey of junior and senior high school accommodations.
11. Evaluation of the plans for Bernal junior high school.
12. Evaluation of the plans for Matt I. Sullivan school.
13. Evaluation of the preliminary sketches of George Washington high school.
14. Study of the possibility of abandonment of Bernal school.
15. Study of the possibility of transfer of grades 7-8 from Laguna Honda to Columbus school.
16. Survey of the educational and architectural features of new schools.

III. SURVEYS (PUPIL PROGRESS, MENTAL, AND ACHIEVEMENT)

1. Completion of Garfield school survey.
2. Survey of Guadalupe school.
3. Survey of Ethan Allan school.

IV. ADMINISTRATIVE STUDIES AND SURVEYS

1. Revision of school department organization chart.
2. A study of the rating of San Francisco high schools by the University of California.
3. Development and distribution of publicity materials, data, and figures to San Francisco civic organizations requesting the same.
4. Development of statistical material for the Ten Years of Progress handbook, published by the Board of Education, September, 1930.
5. Study regarding locks for lockers in junior and senior high schools.
6. Study of all student expenses, fees, deposits, contributions, and fines incidental to attendance in public schools.
7. Study of mid-morning lunch service with survey of undernourished children served and number eligible for service but not included in present service.

IV. ADMINISTRATIVE STUDIES AND SURVEYS - Continued

8. Assignment of students to junior and senior high schools. (Under direction of Deputy Superintendent John C. McGlade)
9. Study of charter provisions for freeholders.
10. Summary of activities of San Francisco Research Department in Secondary Education, 1929-1930, for California Quarterly of Secondary Education.
11. Development of transfer blank for elementary schools.
12. Survey for purpose of establishing the tenth year at Francisco Junior High School.
13. Report of size of classes for U. S. Department of Interior.
14. Survey of the work of the elementary vice principal.
15. Survey of the work of the opportunity teacher.
16. Survey of the work of the kindergarten.
17. Cooperating with Chief Deputy Sup't A. J. Cloud and deputies in a revision of the rules of the Board.
18. Cooperating with and directing a committee making study of a pre-vocational junior high.
19. Directing a committee on the revision of the cumulative record card for elementary schools.
20. Preparing resume of statistics of State Office for 1927-28.
21. Preparing cumulative record card.
22. Preparing a bulletin of high school program offerings.
23. Completing study of teacher load.
24. Making a synopsis of code regulations.
25. Boundary adjustment study - Grant, Emerson, and Pacific Heights schools.
26. Preparing report on attendance of afternoon kindergarten.
27. Preparing a plan of salary schedule hurdles cooperating with Chief Deputy Sup't Cloud and Deputy Sup't Nolan.
28. Preparing a plan of secondary teacher appointments, cooperating with Deputy Sup't Nolan, Dr. Dickson, Dr. Proctor, and Mr. Snow.
29. Making a study of the educational program of other cities.
30. Making a study of elementary school boundaries in order to remove some overlapping.

V. CURRICULUM REVISION

(Cooperating with Chief Deputy Sup't A. J. Cloud)

1. Revision of Continuation School handbook.
2. Reorganization of Gough School curriculum.
3. Physical Education and Health (grades 4-5-6).
4. Music (grades 4-5-6).
5. Language (grades 4-5-6).

VI. PERSONNEL RESEARCH

1. Personnel studies regarding training and experience of teachers.
2. Preparation, scoring, and treatment of results of teacher examinations.

VII. TESTING PROGRAM, 1930-1931

June, 1931, marked the close of San Francisco's most successful year in the field of measurement of pupil ability and achievement. Success in this field does not rest upon the number of pupils tested nor the types of achievement measured, but upon the improvement of instruction resulting from the knowledge gained. Every unit of the testing program is organized with the improvement of instruction as its major objective.

The tabular statement which follows shows the type and number of tests given during the school year 1930-1931 as part of the general testing program.

Type and Number of Tests Given During the School Year

1930-1931

General Testing Program

(43,101 pupils in kindergarten to ninth grade, inclusive)

Grade	Date	Mental Tests	Reading Tests	Arithmetic Tests	Spelling Tests	Total Tests Given
Kindergarten	Nov.	2064	-	-	-	2064
	May	2806	-	-	-	2806
Low First	Aug.	1031	-	-	-	1031
	Jan.	1402	-	-	-	1402
Low Second	Nov.	3478	3478	-	-	6956
	May	2757	2757	-	-	5514
High Third	Nov.	2812	2812	2812	2812	11248
	May	3285	3285	3285	3285	13140
High Fourth	Nov.	-	2712	2712	-	5424
	May	-	3445	3445	-	6890
High Fifth	Nov.	-	2730	2730	-	5460
	May	-	3407	3407	-	6814
High Sixth	Nov.	2588	2588	2588	-	7764
	May	3093	3095	3093	-	9279
*High Eighth	Nov.	1079	-	-	-	1079
	May	1239	1239	1239	1239	4956
*High Ninth	Nov.	1283	-	-	-	1283
	May	1890	-	-	-	1890
Tests Given		30,807	31,546	25,311	7,336	95,000

*High eighth grade pupils leaving elementary schools and high ninth grade pupils leaving junior high schools only.

In addition to the above general program, the Department of Educational Research and Service has cooperated with deputy superintendents, supervisors, and principals wherever further testing might contribute to pupil progress. Among these special programs, the following have been instrumental in bringing about improved classification or improved instruction:

1. Diagnostic reading tests given to pupils of low reading ability in the primary grades. These were used as a point of departure for a remedial reading program.

2. Achievement tests given to pupils of the Ungraded Primary.

3. Mental tests given to all pupils enrolled in classes for the correction of speech defects.

4. Achievement tests given to all pupils of the Sunshine School for the physically handicapped.

5. A reading and arithmetic survey of the Gough School for deaf and hard of hearing children.

6. Mental, reading, and arithmetic tests given to all pupils entering the Aptos, and Presidio junior high schools, to be used as a basis of grouping for instructional purposes.

7. Diagnoses of arithmetic ability in Francisco Junior High School.

8. Survey of arithmetic ability in Horace Mann Junior High School.

9. Complete achievement survey of all pupils leaving the high eighth grade of elementary school to be used as the basis of a high school achievement study.

10. Survey of spelling ability in the 2B and 3A grades in ten schools.

11. Survey of abilities of the North Beach pupils, 6B grade.

12. Selection of pupils for special promotion.

13. Classification of pupils of Park Presidio and Aptos junior high schools.

14. Selection of pupils under state age to determine eligible to 1A.

15. Formulation and direction of testing program in English at Balboa High School.

Principals having special problems in classification of pupils have been encouraged to call upon the Department of Educational Research and Service for assistance. This service has been extended to elementary and junior high schools.

The results of the testing program are made available to principals and teachers through the bulletin which is published by the Department of Educational Research and Service during the school year.

VIII. STUDIES IN PROGRESS

1. Construction of junior high school achievement tests in English, mathematics, general science, and social science.

2. Prediction study to determine achievement in first year of high school.

3. Plan for more complete utilization of test results.

IX. BULLETINS ISSUED

No.	Date	Title	No. of Pages
17	Aug. 1, 1930	Acceleration and Retardation, San Francisco Public Schools - a Comparison of 1929-1930 with 1928-1929	17
18	Sept. 1930	Garfield School Survey	35
19	Sept. 1930	Summary of Testing Program - End of Spring Term, 1930, (High Third Grade)	9
20	Oct. 1930	Summary of Testing Program (End of Spring Term, 1930) I. Utilization of Tests and Measurements in the San Francisco Public Schools. II. Reading and Arithmetic Abilities in the High Fourth, High Fifth, and High Sixth Grades.	20
21	Nov. 1930	Utilization of San Francisco High School Buildings	24
22	Nov. 1930	Reading Ability in the Low Second Grade as Measured by the Gates Primary Reading Test	4
23	Dec. 1930	Promotion and Non-Promotion of Elementary Pupils, 1929-1930.	7
24	Jan. 1931	A Study of the Age and Ability of Pupils Entering and Leaving Junior High School (Fall, 1930).	12
25	Feb. 1931	Survey of Achievement in the San Francisco Public Schools (H3-H4-H5-H6), Fall, 1930.	15

No.	Date	Title	No. of Pages
26	Mar. 1931	Age and Mental Ability of Pupils Leaving High Eighth Grades of San Francisco Elementary Schools - 1930	6
27	Mar. 1931	Reading Ability in Low Second Grade as Measured by the Gates Primary Reading Test - Spring, 1931	4

X. QUESTIONNAIRES ANSWERED

Received from	Subject
National Education Association Washington, D. C.	Organization of Research Departments in the United States
Forest Avenue High School, Dallas, Texas	Counseling of Failing Pupils
The School Committee of the City of Boston, Boston, Mass.	Teaching Participation in Testing Programs
Superintendent of Schools, Des Moines, Iowa	Subjects Required and Electives in San Francisco Junior High Schools. Time Allotments
Committee on Tests and Measurements, Salt Lake City, Utah	Work of San Francisco Committee on Testing
Citrus Union High School and Junior College, Glendora, Calif.	Information Regarding Sex Education in San Francisco Public Schools
Compton Union High School, Compton, California	Information Regarding General Science in Grades 7-8-9 of San Francisco Junior High Schools
University of Southern California, Los Angeles, Calif.	Age-grade Distribution - Elementary, Junior High, and Senior High Schools
Susanville Elementary Schools Susanville, California	Data on Work of Committee on Report Cards
Department of the Interior, Washington, D. C.	Desirable Types of Studies for Inclusion in Government Bulletin on Research

X. QUESTIONNAIRES ANSWERED - Continued

Received from	Subject
Department of the Interior Washington, D. C.	Data for National Survey of Secondary Education
State Normal School, Frostburg, Maryland	Objectives in Tests and Measurements
Superintendent of Schools Canton, Ohio	Use of Tests in San Francisco Public Schools
Superintendent of Schools Long Beach, California	Salaries of Personnel on Central Administrative Staff, Research Assistants, High School Counselors, High School Deans of Girls
The Brookings Institution, Washington, D. C.	Percentage of San Francisco High School Pupils Taking Commercial Courses
Public School Teachers Association, Baltimore Maryland	Salary Schedule
Industrial Art Department, University High School Iowa State University	Industrial Art Course of Study
Superintendent of Schools, Long Beach, California	Test in Botany
University of Southern California, Los Angeles, Cal.	Standardized Tests - Methods Used in Selection of Textbooks and Classroom Material and Supplies
Department of the Interior, Washington, D. C.	Comparative Material to Aid in Survey of Public Schools of City of Buffalo, New York
Division of Research, Department of Public Instruction, Honolulu, T. H.	Teacher Load and Size of Classes
Board of Education, Los Angeles, California	Method of Textbook Selection
Rule Junior High School, Knoxville, Tennessee	General Science Course - Grades 7-8-9

X. QUESTIONNAIRES ANSWERED - Continued

Received from	Subject
State Department of Education Sacramento, California	Information on Mental Hygiene Work in San Francisco
Department of the Interior, Washington, D.C.	Report on Administrative Officers in San Francisco School Department
California Taxpayers' Association, Los Angeles, Calif.	Average Daily Attendance in Elementary, Junior High, and Senior High Schools - Total Expenditures and Teachers' Salaries, Elementary and Senior High
Board of Education, Cleveland, Ohio	Per Cents of Total Population of City Enrolled in Public Day Schools - U. S. Census Years 1910, 1920, and 1930
National Education Association, Washington, D. C.	Report on Character Education for the 1932 Yearbook of the Department of Superintendence
Department of the Interior, Washington, D.C.	Information Concerning Exceptional Children
The Educational Commission of California Taxpayers' Association	Average Daily Attendance - Junior and Senior High School
Board of Education, City of New York	Courses of Study for Rapid Advance Classes
Department of the Interior, Washington, D. C.	Secondary School Curriculum
Superintendent of Schools, Kings County, Hanford, Calif.	Information Regarding Reading Survey
School of Education, Indiana University, Bloomington, Indiana	Information Regarding Educational Research Bureau
Division of Education, Cornell University, Ithaca, New York	Fusion Courses in Social Studies
National Education Association, Washington, D. C.	Size of Classes, Elementary, Junior, and Senior High Schools

125

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DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

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PRINCIPALS' AND TEACHERS' HAND BOOK ON UTILIZATION OF TEST RESULTS FOR USE IN THE SAN FRANCISCO PUBLIC SCHOOLS

AUGUST - 1931

Bulletin No. 30
July - 1931

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

PRINCIPALS' AND TEACHERS' HANDBOOK ON UTILIZATION OF TEST RESULTS FOR USE IN THE SAN FRANCISCO PUBLIC SCHOOLS

August, 1931

June, 1931, marked the close of San Francisco's most successful year in the field of measurement of pupil ability and achievement. Success in this field does not rest upon the number of pupils tested, nor the types of achievement measured, but upon the improvement of instruction resulting from the knowledge gained. Each unit of the testing program is organized with the improvement of instruction, hence pupil progress as its ultimate goal.

The testing program in San Francisco is a cooperative project in which every principal and teacher participates. Through their intelligent and willing cooperation the results of tests have been successfully applied in the educational procedures which follow:

1. Ability grouping for instructional purposes.
2. Measurement of pupil progress
3. Selection of pupils for differentiated educational treatment
4. Diagnosis of class and individual difficulties
5. Investigation of sources of retardation and failure
6. Evaluation and adaptation of methods and materials
7. Curriculum organization and revision

The tabular statement which follows shows the type and number of tests given during the school year 1930-31 as part of the general testing program.

Type and Number of Tests Given During the School Year
General Testing Program, 1930-1931
(43,101 pupils in kindergarten to ninth grade, inclusive)

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	May	-	3445	3445	-	6890
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a. Diagnostic reading tests given to pupils of low reading ability in the primary grades. These were used as a point of departure for a remedial reading program.

b. Achievement tests given to pupils of the Ungraded Primary.

c. Mental tests given to all pupils enrolled in classes for the correction of speech defects.

d. Achievement tests given to all pupils of the Sunshine School for the physically handicapped.

e. A reading and arithmetic survey of the Gough School for deaf and hard of hearing children.

f. Mental, reading, and arithmetic tests given to all pupils entering the Presidio and the Aptos Junior High School to be used as a basis of grouping for instructional purposes.

g. Diagnoses of arithmetic ability in Francisco Junior High School.

h. Survey of arithmetic ability in Horace Mann Junior High School.

i. Complete achievement survey of all pupils leaving the high eighth grade of elementary school to be used as the basis of a high school achievement study.

Principals having special problems in classification of pupils have been encouraged to call upon the Department of Educational Research and Service for assistance. This service has been extended to elementary and junior high schools.

The results of the testing programs are made available to principals and teachers through the bulletin which is published by the Department of Educational Research and Service during the school year.

To the Principal:

The instructions which follow are given in order to facilitate an early classification of pupils within your school.

1. Each teacher after being assigned to a class is to receive all available test data of the pupils she is to instruct, together with a set of mimeographed instruction having suggestions for the utilization of these data.

2. New pupils in the city, and transfers for whom no test records are available should be tested at the earliest convenience of the teachers. These pupils should receive the same tests as the pupils of the grade to which they will be assigned.

3. If tests are not available for such pupils, list those desired and mail or phone your order to the Department of Research and Service.

4. All pupils entering the low first grade who were not tested in kindergarten should receive a Pintner-Cunningham Primary Mental Test, Form A. There should be a sufficient number of tests on hand in your office for this purpose. If such is not the case, requisition them from the Department of Research and Service.

5. Under-age pupils who have been recommended to the low first grade on the basis of superior general ability should be retained on the kindergarten roll for the duration of the term.

6. Over-age pupils in each grade should be given careful observation and when ability permits should be prepared for a double promotion at the end of the current term.

7. Pupils of exceptionally low mental ability should be listed and recommended to Miss Lombard, Supervisor of Special Classes, for an individual mental test as early in the term as possible.

8. Pupils who are apparently handicapped through some physical disability should be recommended to Deputy Superintendent, Mrs. Fitz-Gerald, in order that the proper educational treatment might be determined.

For further interpretation of test data, principals should feel free to call upon the Department of Educational Research and Service.

OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

August 8, 1931

To Teachers of the Low First Grade:

You will receive from your principal the test record of all kindergarten pupils who have been promoted to the low first grade. All other pupils entering the low first should receive the Pintner-Cunningham Primary Mental Test during the first week of the new term in order that homogeneous instructional groups might be formed at once.

Record sheets are provided for entering the results of the Pintner-Cunningham Test given to the new low first grade pupils. Kindly record these results as follows:

Column 1 - Indicate sex by B or G.
Column 2 - Enter chronological age in years and months.
Column 3 - Enter Pintner-Cunningham score.
Column 4 - Enter in years and months the age equivalent to the Pintner-Cunningham score.
Column 5 - In case a pupil has attended kindergarten, enter the number of months' attendance here.
Column 6 - Enter any comment that will further aid in interpreting the pupil's ability.

Kindly mail the record sheet to the Department of Research and service not later than August 24, 1931. A duplicate should be placed on file in your principal's office.

A tentative grouping may be made on the bases of test results and first impressions of general maturity and social adaptability. These groups should be flexible as pupils often overcome initial timidity within a few days and adapt themselves to work of a higher level.

Pupils coming from homes where little English is spoken and those of low general ability should be given special attention. Where there is exceptionally low ability without language handicap, the teacher should make every effort to see whether the source of disability is a correctible physical defect, and, if so, to refer the case to the principal.

Any wide deviation from normal behavior, either physical or mental, should be reported to the principal in order that proper steps toward remedial treatment might be taken.

In schools where there is no junior primary, pupils of low general ability should be placed in the slowest section of the first grade class and should receive much work of the type given in junior primary. Please keep in mind that the junior primary is a first-grade class, and pupils must be of state age before they are admitted. Junior primary pupils are characterized by immaturity or low general ability. Their placement is based on teacher's judgment supplemented by test results, the assumption being that some time will be necessary to provide these pupils with reading readiness and other preparation upon which success in first grade depends. While this may be achieved in less than a term, it should never exceed that time.

Pupils entering the regular low first grade from junior primary classes, and other pupils whose entrance to the first grade has been delayed, should receive the most careful attention in order that further retardation will be averted.

In a few schools, there are pupils who were slightly under state age but who have been placed there upon the basis of test results and recommendation of teacher, principal, and supervisor. Investigations show that these pupils are most likely to be successful in one of the rapidly moving groups in the first grade. This should be kept in mind when placing them in their instructional group.

After looking to your extremes in mental ability you will find that the remainder of your class is rather homogeneous with respect to chronological age. It will be advantageous to group these pupils in such a way that the smallest possible range of mental ability exists in each instructional group.

If assistance is desired in the further interpretation of test results or in the grouping of pupils, please call upon the Department of Educational Research and Service.

OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

August 8, 1931

To Teachers of the High Second Grade:

You will receive from your principal the test records of pupils entering the high second grade. These records contain the results of the tests given to the pupils leaving the low second grade in June, 1931, in the following order:

Column 1 - Sex of pupil
Column 2 - Chronological age as of May 6, 1931
Column 4 - Mental Age, Detroit Primary Intelligence Test
Column 6 - Reading Ability, Gates Test, Type 2, Word, Phrase, and Sentence Reading
Column 8 - Reading Ability, Gates Test, Type 3, Par.Meaning
Column 9 - Reading Age (average of reading ages on Types 2 and 3)

Utilization of Results

In order to take into consideration the above data in planning for the classification of pupils and their instruction, the model classification chart should be used as follows:

1. Make two enlarged duplicates of the chart designated for use in the high second grade. The manila paper ruled in inch squares which is supplied to the primary department will serve this purpose adequately.

2. Pupils may be distributed on these charts by name, initial, or number. Name is usually preferable where space permits. On the first chart, locate the pupil's chronological age in the age range at the left, and his mental age (Column 4) in the ability scale at the bottom, and place his name or number in the square where the two columns meet.

   After distributing all of the mental abilities on one chart, follow the same procedure in distributing the reading ages (Column 9) on the second chart.

3. After the pupils' records have been distributed, it may be observed that one or more have fallen in the broken line section at the upper right or left of the chart.

   a. The fact that a pupil's name appears in either broken line section indicates that he is at least a year over age for his grade.

b. If the name appears in the broken line section at the right on one or both charts, it means that this over-age pupil undoubtedly has ability to do the work of the next half grade. He should be prepared for a double promotion at the end of the current term.

c. If the name appears in the broken line section at the left on either or both charts, it means that the pupil is at least one year over-age for his grade, and at least one year below the standard; hence two years below what should be normally expected of him. Such children, if not obviously handicapped by lack of English contacts should be recommended to the principal, who will request an individual test for them. The best possible educational treatment for these pupils should be determined as early in their school career as possible. Some of these pupils are no doubt eligible to the ungraded classes for pupils who are mentally deficient. Others who are handicapped by physical defects may be recommended to classes where they can realize progress.

4. The charts may be compared in order to select pupils whose reading ability is not consistent with mental ability as shown by the results of intelligence test. Such pupils should be given a careful diagnosis in order to find the causes of the deficiency. In diagnosing reading ability the separate reading ages (Colums 7 and 8) should be considered as well as the average.

5. After the extreme cases have been given due consideration, the remainder of the class which is fairly homogeneous with respect to chronological age should be grouped for instructional purposes. As reading ability is more indicative of the pupil's school achievement, the reading chart will be used as the basis of grouping.

Each teacher should provide for three ability groups. If there are two low second grade teachers, there should be six groups. These groups should be determined by drawing lines which enclose approximately twelve pupils most alike in reading ability and chronological age, or those falling nearest each other on the chart.

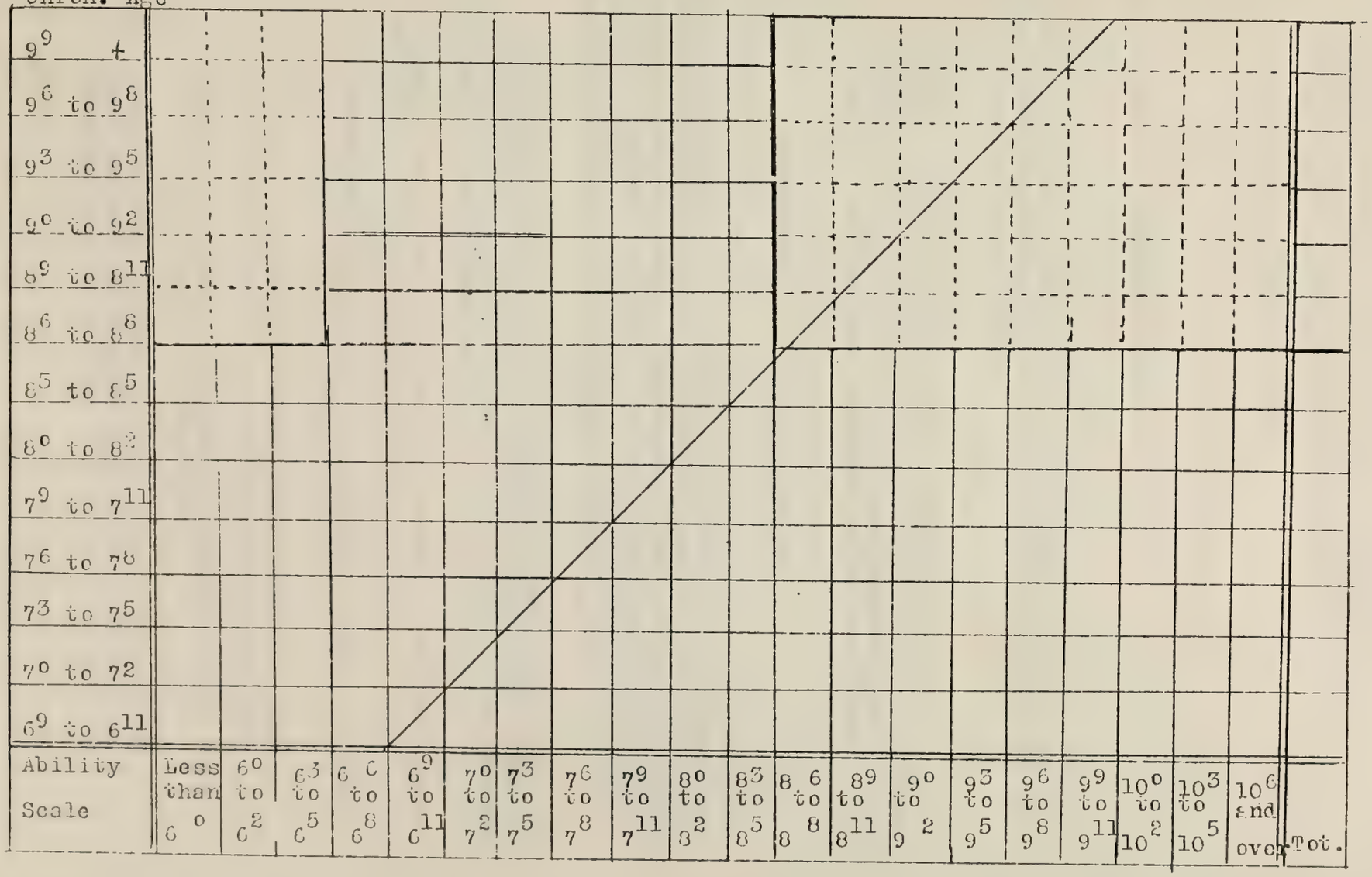
In schools having two teachers of the low second grade, each teacher will find it advisable to take the three groups who are most alike in ability, one teacher taking the three highest, the other the three lowest. It will be found advisable to limit the number of the lowest group to ten pupils as they will require a great deal of remedial work.

Further assistance in the interpretation of test results and their utilization will be given by the Department of Educational Research and Service upon request.

MODEL CLASSIFICATION CHART FOR USE IN THE HIGH SECOND GRADE

_____ SCHOOL _____ DATE OF TEST _____ TEACHER

_____ ABILITY _____ NAME OF TEST _____ TEACHER



OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets,

August 8, 1931

To Teachers of the Low Fourth Grade:

You will receive from your principal the test records of pupils entering the low fourth grade. These records contain the results of the tests given to pupils leaving the high third grade in June, 1931, in the following order:

Column 1 - Sex of pupil
Column 2 - Chronological Age as of May 6, 1931
Column 4 - Mental Age, Detroit Primary Intelligence Tests
Column 6 - Reading Age, Stanford Achievement Test
Column 10 - Spelling Age, Stanford Achievement Test

Organization of Reading Groups

A model classification chart is attached in order to aid teachers in grouping pupils for reading instruction. An enlarged duplicate of this chart may be made of the inch-squared, manila paper which is supplied to the primary department. The low and high fourth grades are to be charted together, for the purpose of forming homogeneous reading groups. The following instructions will aid in the distribution of abilities and the organization of groups.

1. Locate each low fourth grade pupil's chronological age in the interval at the left, his reading age in the interval at the bottom; and enter his name or number in the square where the two columns meet.

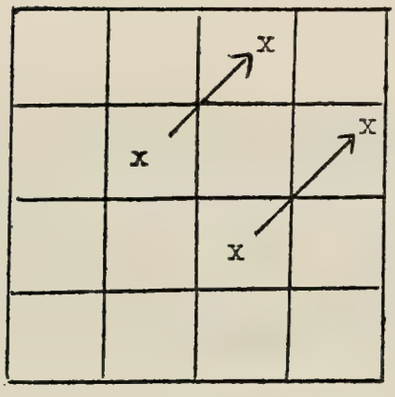
2. Transfer the records of the high fourth grade (last term's 4A grade) to the chart as follows:

   a. Assume that each pupil is six months older in chronological age and in reading ability.

   b. To raise a pupil six months chronologically would place him one square above his present position.

   c. To raise a pupil six months in reading ability would move him one square to the right.

   d. To raise both chronological age and reading ability would change the pupil's placement on the chart as illustrated.



3. After all of the pupils of the entire fourth grade have been distributed, provide for twice as many ability groups, (of approximately twenty pupils) as there are fourth-grade teachers. Reading groups should be determined by drawing lines to enclose groups of 20 pupils who are most nearly alike in chronological age and reading ability. Each teacher should receive the two groups whose abilities are most nearly alike.

4. Pupils thus grouped will rotate for reading according to Miss Roberts' former instructions.

Further Utilization of Test Results

Teachers may make enlarged charts of the low fourth-grade pupils to show the distribution of the pupils in the other abilities tested, and to provide for ability groups within the class in arithmetic and spelling, if desired.

The broken-line sections of the chart will aid in calling attention to pupils deserving of special consideration or differentiated educational treatment.

1. All pupils falling in the broken-line section are at least one year over-age for their grade.

2. Those in the broken-line section at the right are over-age, but ability or achievement indicates that they are capable of doing the work of a higher grade. These pupils should be given special attention in the subjects in which they show weakness in order that they might be given a double promotion at the end of the current term.

3. Those in the broken-line section at the left are at least one year over-age for their grade, and at least one year retarded for their chronological age; hence, two or more years retarded. If a pupil's name appears in this section of the mental ability chart, the pupil should be recommended to the principal, who will request a mental test to determine further educational treatment. If it is felt that a language handicap is responsible for the retardation, this step need not be taken.

4. Pupils who are average or better in mental ability but who fall conspicuously below in achievement should be tested further in order to determine the source of the disability.

The instructions given above are not merely for the purpose of grouping pupils of like abilities, and calling attention to the extremes, but for the purpose of grouping pupils in order that their needs might be met more adequately. The ability of the groups within your class should be one of the major considerations in establishing your objectives, providing your material, and in planning the work of the term.

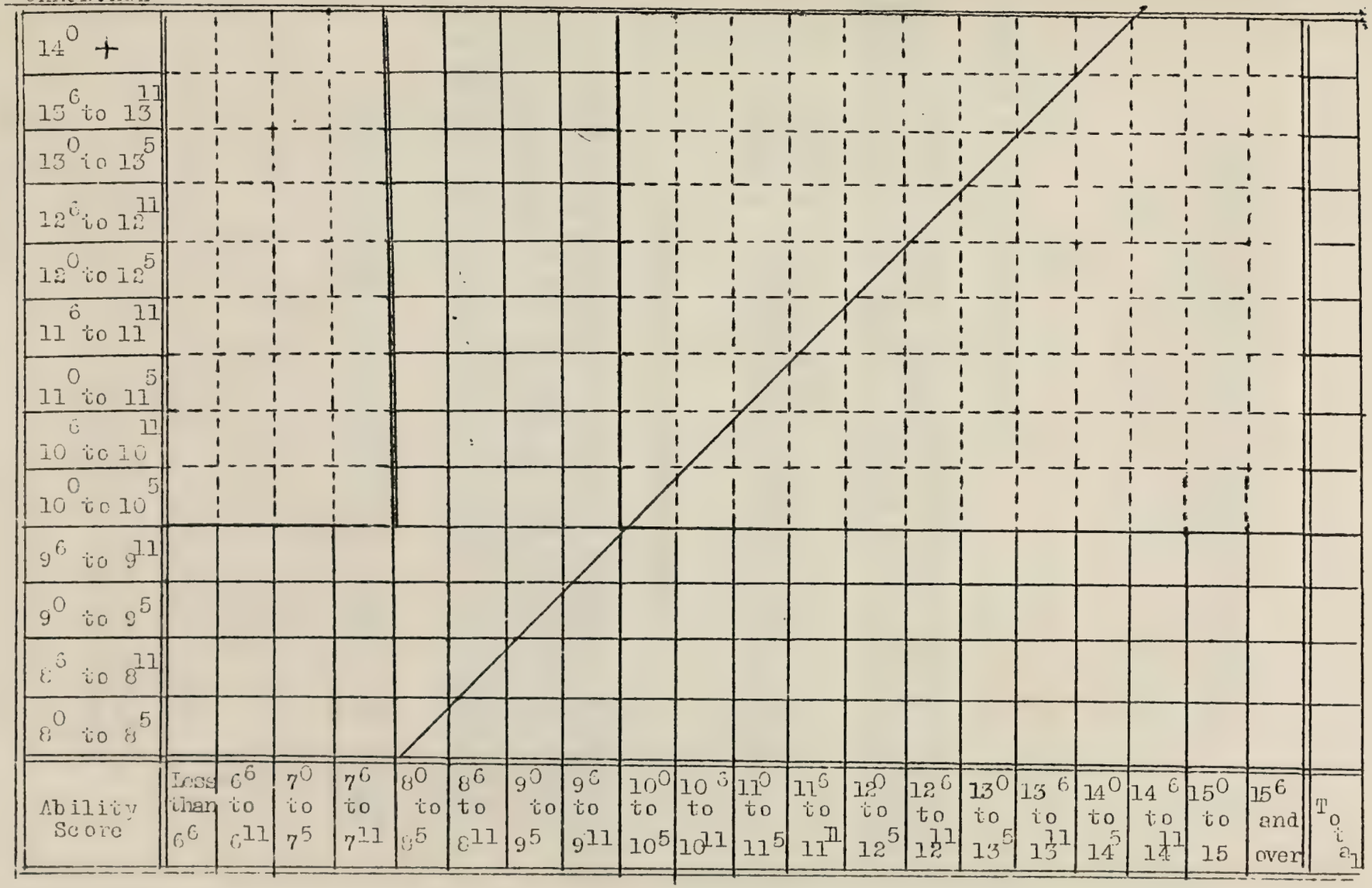
Further assistance in the interpretation of test results will be given by the Department of Educational Research and Service upon request.

MODEL CLASSIFICATION CHART FOR USE IN THE LOW FOURTH GRADE

_____ SCHOOL _____ DATE OF TEST _____ TEACHER

_____ ABILITY _____ NAME OF TEST _____ TEACHER

CHRON. AGE



Ability Score	Less than 6^6	6^6 to 6^{11}	7^0 to 7^5	7^6 to 7^{11}	8^0 to 8^5	8^6 to 8^{11}	9^0 to 9^5	9^6 to 9^{11}	10^0 to 10^5	10^6 to 10^{11}	11^0 to 11^5	11^6 to 11^{11}	12^0 to 12^5	12^6 to 12^{11}	13^0 to 13^5	13^6 to 13^{11}	14^0 to 14^5	14^6 to 14^{11}	15^0 to 15	15^6 and over	Total

OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets,

August 8, 1931

To Teachers of the Low Fifth Grade:

You will receive from your principal the test records of pupils entering the low fifth grade. These records contain the results of the tests given to pupils leaving the high fourth grade in June, 1931, in the following order:

Column 1 - Sex of pupil
Column 2 - Chronological Age as of May 6, 1931
Column 4 - Reading Age, Stanford Achievement Test
Column 6 - Arithmetic Age, Stanford Achievement Test

Organization of Reading Groups

A model classification chart is attached in order to aid teachers in grouping pupils for reading instruction. An enlarged duplicate of this chart may be made of the inch-squared manila paper which is supplied to the primary department. The low and high fifth grades are to be charted together for the purpose of forming homogeneous reading groups. The following instructions will aid in the distribution of abilities and the organization of groups.

1. Locate each low-fifth grade pupil's chronological age in the interval at the left, his reading age in the interval at the bottom, and enter his name or number in the square where the two columns meet.

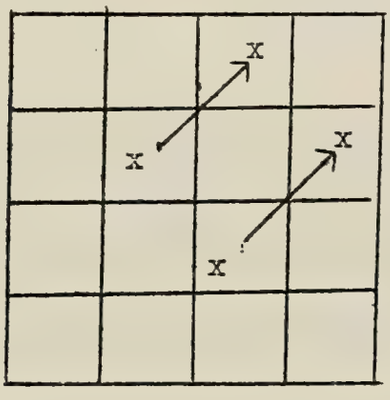
2. Transfer the records of the high fifth grade (last term's 5A grade) to the chart as follows:

   a. Assume that each pupil is six months older in chronological age and in reading ability.

   b. To raise a pupil six months chronologically would place him one square above his present position.

c. To raise a pupil six months in reading ability would move him one square to the right.

d. To raise both chronological age and reading ability would change the pupil's placement on the chart as illustrated.



3. After all of the pupils of the entire fifth grade have been distributed, provide for twice as many ability groups (of approximately twenty pupils) as there are fifth-grade teachers. Reading groups should be determined by drawing lines to enclose groups of 20 pupils who are most nearly alike in chronological age and reading ability. Each teacher should receive the two groups whose abilities are most nearly alike.

4. Pupils thus grouped will rotate for reading according to Miss Roberts' former instructions.

Further Utilization of Test Results

Teachers may make enlarged charts of the low-fifth grade pupils to show the distribution of pupils in arithmetic, and to provide for ability groups within the class.

The broken-line sections of the chart will aid in calling attention to pupils deserving of special consideration or differentiated educational treatment.

1. All pupils falling in the broken-line section are at least one year over-age for their grade.

2. Those in the broken-line section at the right are over-age, but achievement in the subject tested shows that they are capable of doing the work of a higher grade. These pupils should be given special attention in the subjects in which they show weakness in order that they might be given a double promotion at the end of the current term.

3. Those in the broken-line section at the left are at least one year over-age for their grade and at least one year retarded for their chronological age; hence, two or more years retarded. If a pupil's name appears in this section of either ability chart, the pupil should be recommended to the principal, who will request further tests to determine further educational treatment. If it is felt that a language handicap is responsible for the retardation, this step need not be taken.

4. Pupils who are average or better in mental ability but who fall conspicuously below in reading or arithmetic achievement, should be tested further in order to determine the source of the disability.

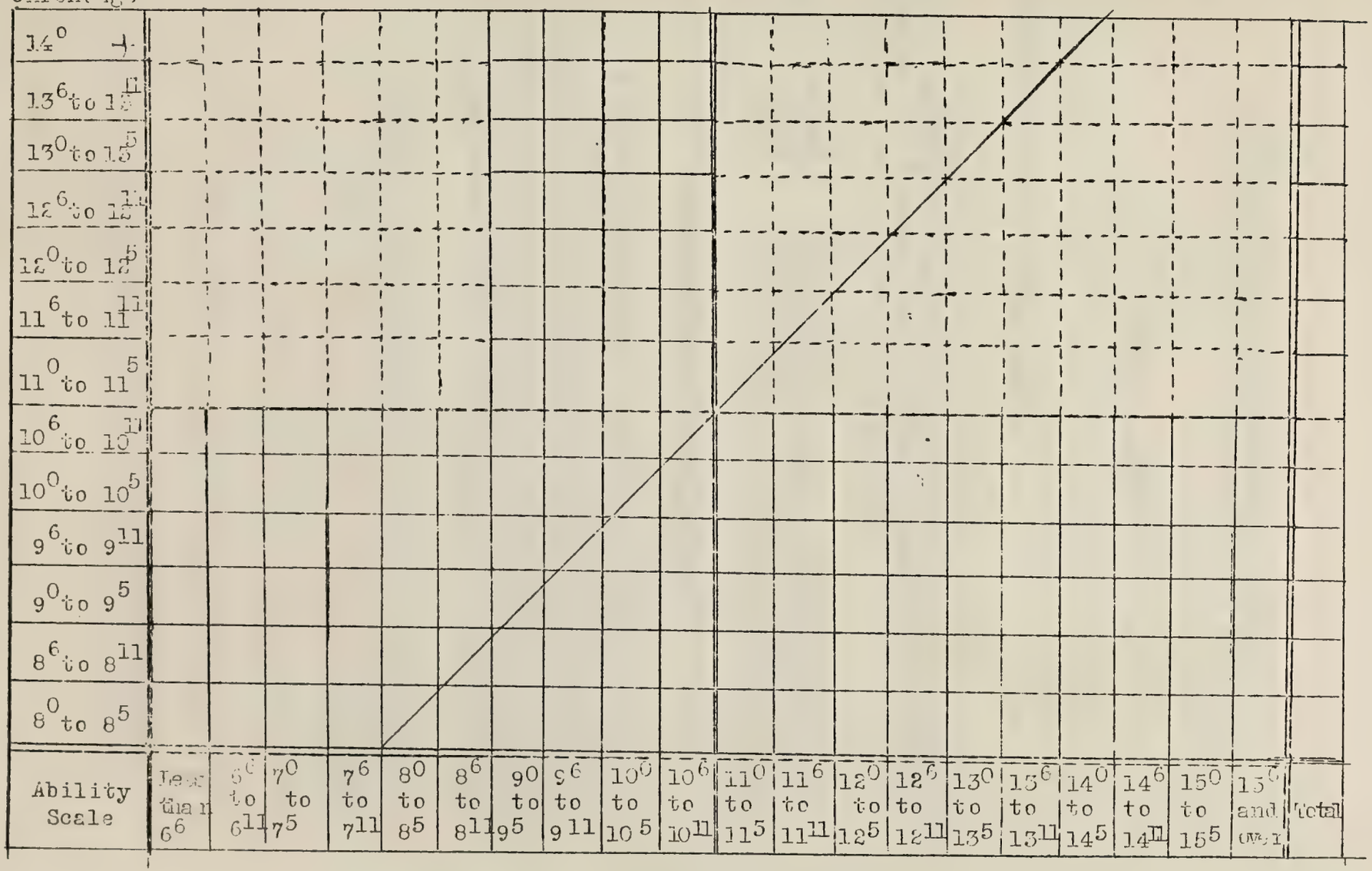
The instructions given above are not merely for the purpose of grouping pupils of like abilities and calling attention to the extremes, but for the purpose of grouping pupils in order that their needs might be met more adequately. The ability of the groups within your class should be one of the major considerations in establishing your objectives, providing your material, and in planning the work of the term.

Further assistance in the interpretation of test results will be given by the Department of Educational Research and Service upon request.

MODEL CLASSIFICATION CHART FOR USE IN THE LOW FIFTH GRADE

School _____ Date of Test _____ Teacher

Ability _____ Name of Test _____ Teacher



Ability Scale	Less than 6⁶	6⁶ to 6¹¹	7⁰ to 7⁵	7⁶ to 7¹¹	8⁰ to 8⁵	8⁶ to 8¹¹	9⁰ to 9⁵	9⁶ to 9¹¹	10⁰ to 10⁵	10⁶ to 10¹¹	11⁰ to 11⁵	11⁶ to 11¹¹	12⁰ to 12⁵	12⁶ to 12¹¹	13⁰ to 13⁵	13⁶ to 13¹¹	14⁰ to 14⁵	14⁶ to 14¹¹	15⁰ to 15⁵	15⁶ and over	Total

OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

August 8, 1931

To Teachers of the Low Sixth Grade:

You will receive from your principal the test records of pupils entering the low sixth grade. These records contain the results of the tests given to pupils leaving the high fifth grade in June, 1931, in the following order:

Column 1 - Sex of pupil
Column 2 - Chronological Age as of May 6, 1931
Column 4 - Reading Age, Stanford Achievement Test
Column 6 - Arithmetic Age, Stanford Achievement Test

Organization of Reading Groups

A model classification chart is attached in order to aid teachers in grouping pupils for reading instruction. An enlarged duplicate of this chart may be made of the inch-squared manila paper which is supplied to the primary department. The low and high sixth grades are to be charted together for the purpose of forming homogeneous reading groups. The following instructions will aid in the distribution of abilities and the organization of groups.

1. Locate each low sixth grade pupil's chronological age in the interval at the left; his reading age in the interval at the bottom; and enter his name or number in the square where the two columns meet.

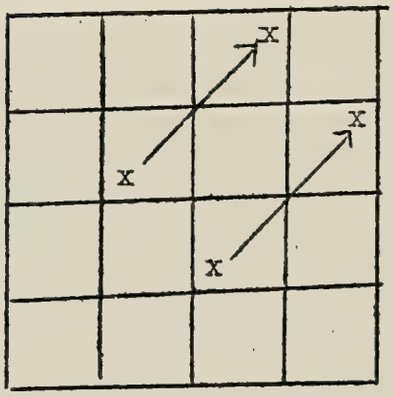
2. Transfer the records of the high sixth grade (last term's 6A grade) to the chart as follows:

   a. Assume that each pupil is six months older in chronological age and in reading ability.

   b. To raise a pupil six months chronologically would place him one square above his present position.

c. To raise a pupil six months in reading ability would move him one square to the right.

d. To raise both chronological age and reading ability would change the pupil's placement on the chart as illustrated.



3. After all of the pupils of the entire sixth grade have been distributed, provide for twice as many ability groups (of approximately twenty pupils) as there are sixth grade teachers. Reading groups should be determined by drawing lines to enclose groups of 20 pupils who are most nearly alike in chronological age and reading ability. Each teacher should receive the two groups whose abilities are most nearly alike.

4. Pupils thus grouped will rotate for reading according to Miss Roberts' former instructions.

Further Utilization of Test Results

Teachers may make enlarged charts of the low sixth grade records to show the distribution of pupils in arithmetic, and to provide for ability groups within the class.

The broken line sections of the chart will aid in calling attention to pupils deserving of special consideration or differentiated educational treatment.

1. All pupils falling in the broken line section are at least one year over-age for their grade.

2. Those in the broken line section at the right are over-age, but achievement in the subject tested shows that they are capable of doing the work of a higher grade. These pupils should be given special attention in the subjects in which they show weakness in order that they might be given a double promotion at the end of the current term.

3. Those in the broken line section at the left are at least one year over-age for their grade and at least one year retarded for their chronological age; hence, two or more years retarded. If a pupil's name appears in this section of either ability chart, the pupil should be recommended to the principal who will request additional tests to determine further educational treatment. If it is felt that a language handicap is responsible for the retardation, this step need not be taken.

4. Pupils who are average or better in mental ability but who fall conspicuously below in reading or arithmetic achievement should be tested further in order to determine the source of the disability.

The instructions given above are not merely for the purpose of grouping pupils of like abilities and calling attention to the extremes, but for the purpose of grouping pupils in order that their needs might be met more adequately. The ability of the groups within your class should be one of the major considerations in establishing your objectives, providing your material, and in planning the work of the term.

Further assistance in the interpretation of test results will be given by the Department of Educational Research and Service upon request.

* 31

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DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

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THE REMEDIAL READING PROGRAM IN THE PRIMARY GRADES SPRING TERM - 1931

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Bulletin No. 31
August - 1931

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

THE REMEDIAL READING PROGRAM IN THE PRIMARY GRADES

SPRING TERM - 1931

The November survey of reading ability in the low second and high third grades served as a basis for the remedial program inaugurated at the opening of the current term. Miss Estes, Acting Supervisor of the Primary Grades, made a careful check, not only of the schools where remedial work was needed but of the pupils within these schools who were in need of special attention. Many of these schools entered upon their remedial programs independently, while in others, teachers enrolled in Mr. Stone's course in "The Teaching of Primary Reading".

Approximately one hundred teachers representing more than thirty schools were enrolled in Mr. Stone's course last semester in which the improvement of primary reading was the major consideration. The enthusiastic participation of this large group of primary teachers in the improvement of reading promises to be far-reaching in its results.

Reports have been received from twenty of the schools which, under the supervision of Mr. Stone and Miss Estes in cooperation with the Department of Educational Research and Service, measured the reading ability of the pupils at the beginning and end of a three months' period of intensive remedial work.

The report presented here involves 237 pupils in the primary grades. These pupils were all selected because they were conspicuously below normal in reading ability. Many were below normal mentally as well, and many had language handicaps but these facts were disregarded and every effort was made to improve reading regardless of the source of the pupil's deficiency.

On the basis of the Gates' Primary Reading Tests, Types 1 and 3, given to 237 pupils at the beginning and end of a three months' interval, the following gains were noted:

Q_1 = 2.5 months

Med. = 5.6 months

Q_3 = 9.7 months

Figure 1 on the following page gives a distribution of these gains.

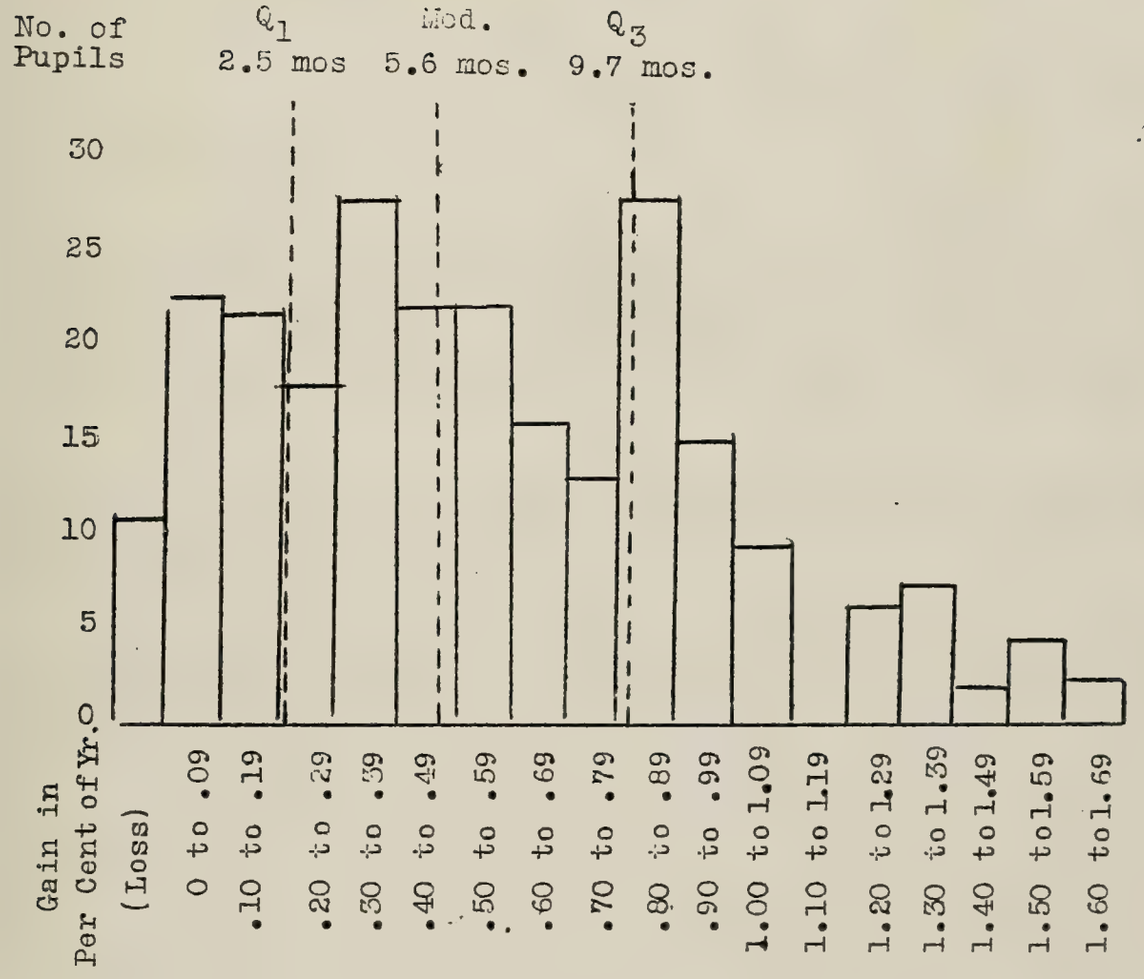

FIGURE I

Distribution of Reading Gains
in Per Cent of Year
(237 pupils)

Considering the fact that none of these pupils had made normal progress prior to this period, a median gain of 5.6 months in a three months' period is most gratifying. The highest quarter made gains ranging from 9.7 months to a year and a half. Eleven pupils, less than one half of one per cent, a negligible number, failed to make progress. Keeping in mind the fact that a much greater number were definitely handicapped mentally, this number showing no gain is remarkably small.

Pupils who under this carefully organized and supervised program failed to make some progress are being recommended to individual tests to further analyze the source or sources of their disability. Many will be recommended to ungraded classes at the opening of the fall term. Names of such pupils should be referred to Miss Lombard, Supervisor of Ungraded Classes, for individual tests.

A continuation of such a program will eventuate in minimizing failure due to inability to read. It is hoped that each term will see the growing participation of primary teachers in this type of remedial work.

A word of appreciation is here extended to the teachers whose time and effort made this initial program a success. No word of commendation, however, can compare with the satisfaction they have already derived in watching the growth of these pupils to whom the printed word is gaining in significance.

Bulletin #34

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SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
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CLASS SIZE
SAN FRANCISCO HIGH SCHOOLS

Fall Term 1931-1932

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Bulletin No. 34

October - 1931

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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE

October 23, 1931

Class Size
San Francisco Senior High Schools
Fall Term 1931-32

The data which formed the basis of this study were derived from the teacher programs submitted by the teachers of the high schools on August 21, 1931.

Classes in R. O. T. C., lip reading and speech correction are not included in the tables, with the exception of the R. O. T. C. bands which are included as classes in music.

Table I is a distribution of class-size by departments.

Table I

Class Size by Departments for all Schools

Class Size	Art	Commercial	English	Language	Household Arts	Industrial Arts	Mathematics	Mechanical Drawing	Music	Physical Education	Science	Social Science	Total
50 & Over			1						8	90		1	100
45-49		6	3	1					5	53		5	73
40-44		72	37	16	4		17		8	82	1	64	301
35-39	7	114	134	58	5		56		8	54	15	103	554
30-34	25	85	150	106	21		86	7	21	46	59	89	695
25-29	48	71	93	88	28	77	59	30	7	29	134	65	729
20-24	47	51	72	71	45	37	26	56	18	16	94	22	555
15-19	12	4	4	9	2	11	1	1	6	1	10		61
10-14	1			3			1		3		2		10
5-9				1					2				3
1-4													
Total	140	403	494	353	105	125	246	94	86	371	315	349	3081
Median	26.0	34.4	32.6	30.2	26.0	25.9	32.1	24.1	31.7	42.4	26.9	35.0	31.3

On the last line of the table the median class-size is shown for each department and for all departments, ranging from 24.1 in mechanical drawing to 42.4 in physical education, with 31.3 as the median class-size for all classes. Practically, one may say that about one-half of the classes in the high schools have more, and about one-half of the classes have less than 31 pupils.

This tabulation also shows that there are 74 classes with less than 20 pupils and 555 classes having from 20 to 24 pupils. These small classes are distributed among the various departments as shown in Table II.

Table II

Small Classes by Departments

Department	Number of Classes with less than 20 pupils		Number of Classes having from 20 to 24 pupils	
	Academic			
English	4		72	
Social Science			22	
Mathematics	2		26	
Language	13		71	
Science	12		94	
Total		31		285
	Non-academic			
Commercial	4		51	
Industrial Arts	11		37	
Household Arts	2		45	
Art	13		47	
Mechanical Drawing	1		56	
Music	11		18	
Physical Education	1		16	
Total		43		270
Grand Total		74		555

Table III which follows is a distribution of class-size by schools.

Table III

Class-Size by Schools

	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Polytechnic	Total
50 or over	15	19	13	4	15	20	14	100
45-49	11	13	11	7	12	10	9	73
40-44	53	87	17	8	34	36	66	301
35-39	75	101	105	39	75	89	70	554
30-34	98	104	125	73	113	99	83	695
25-29	111	76	127	71	111	117	116	729
20-24	68	39	119	83	94	60	92	555
15-19	5	3	8	16	3	2	24	61
10-14	2		2		1		5	10
5-9				1	1		1	3
1-4								
Total	438	442	527	302	459	433	480	3081
Median	31.7	34.9	30.3	28.6	30.9	31.9	30.1	31.3

On the last line of the table is shown the median class-size for each school, ranging from 28.6 at Girls to 34.9 at Commerce. The 74 classes with less than 20 pupils and the 555 classes having from 20 to 24 pupils, are distributed by schools as follows in Table IV.

Table IV

Small Classes by Schools

School	Number of Classes with less than 20 pupils	Number of Classes having from 20 to 24 pupils
Balboa	7	68
Commerce	3	39
Galileo	10	119
Girls	17	83
Lowell	5	94
Mission	2	60
Polytechnic	30	92
Total	74	555

Table V is a comparison of small classes in the two cities, Los Angeles and San Francisco.

Table V

City	Per cent of classes having less than 20 pupils	Per cent of classes having from 20 to 24 pupils	Per Cent of classes having less than 25 pupils
San Francisco Fall 1931	2.4	18.0	20.4
Los Angeles Spring 1931	13.7	17.6	31.3

Table VI is a tabulation showing the number of classes for each department, in academic departments, in commercial department, in non-academic departments excluding commercial classes, in physical education and in the total of all classes by schools.

Table VI

Number of Classes in Each Department
by schools

Department	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Poly-technic	Total
English	73	63	87	51	81	65	74	494
Social Science	41	39	64	29	72	53	51	349
Mathematics	28	27	51	25	48	28	39	246
Modern Language	56	48	61	46	74	28	40	353
Science	39	31	57	23	80	36	49	315
Total Academic	237	208	320	174	355	210	253	1757
Commercial	56	122	70	30	11	76	38	403
Industrial Arts	29	-	20	-	-	35	41	125
Household Arts	24	16	13	26	-	12	14	105
Art	13	10	20	20	27	19	31	140
Mechanical Drawing	15	8	19	-	6	17	29	94
Music	12	9	7	8	20	11	19	86
Total Non-Academic	93	43	79	54	53	94	134	555
Physical Education	52	69	58	44	40	53	55	371
Grand Total	438	442	527	302	459	433	480	3081

Table VII is a similar tabulation showing the median class-size for each department in Academic Departments, in Commercial Departments, in Non-Academic Departments, excluding commercial, in Physical Education, and in total of all classes by schools.

Table VII

Median Class-Size by Schools
and by Departments
Fall Term 1931-32

Department	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Poly-technic	Total
English	34.2	36.9	30.9	27.8	32.9	32.3	33.5	32.6
Social Science	34.3	39.1	32.8	31.6	34.8	37.0	35.9	34.9
Mathematics	33.6	33.9	32.6	28.2	30.9	33.7	32.2	32.1
Modern Language & Latin	31.2	32.8	29.5	25.0	29.6	29.1	32.3	30.2
Science	27.1	28.1	26.6	27.5	25.9	30.6	25.5	26.2
Academic Median	31.8	34.3	30.4	27.9	30.4	32.7	31.7	31.3
Commercial	35.6	36.5	34.5	31.4	37.5	31.6	34.5	34.4
Industrial Arts	25.9	-	25.8	-	-	27.4	23.4	25.9
Household Arts	24.6	27.5	26.2	23.7	-	37.5	25.0	25.9
Art	27.5	28.7	24.1	23.8	26.4	28.8	24.6	26.0
Mechanical Drawing	25.5	22.9	23.2	-	26.2	22.5	25.6	24.1
Music	32.5	29.1	47.5	35.0	31.7	41.2	23.5	31.7
Average Non-Academic	26.0	27.0	24.5	23.9	27.5	27.9	24.4	24.7
Physical Education	44.0	43.0	37.5	36.9	47.5	42.7	42.5	42.5
Median for All	31.7	34.9	30.3	28.6	30.9	31.9	30.1	31.3

A ranking of schools according to median class-size in academic classes, non-academic classes, in commercial classes, in physical education and in all classes is shown by Table VIII which follows.

Table VIII*

Academic			Non-Academic		
School	Median Class-Size	Rank	School	Median Class-Size	Rank
Commerce	34.3	1	Mission	27.9	1
Mission	32.7	2	Lowell	27.5	2
Balboa	31.8	3	Commerce	27.0	3
Polytechnic	31.7	4	Balboa	26.0	4
Galileo	30.4)	5 and 6	Galileo	24.5	5
Lowell	30.4)		Polytechnic	24.4	6
Girls	27.9	7	Girls	23.9	7
Average	31.3			24.7	

Commercial			Physical Education		
Lowell	37.5	1	Lowell	47.5	1
Commerce	36.5	2	Balboa	44.0	2
Balboa	35.6	3	Commerce	43.0	3
Galileo	34.5)	4 and 5	Mission	42.7	4
Polytechnic	34.5)		Polytechnic	42.5	5
Mission	31.6	6	Galileo	37.5	6
Girls	31.4	7	Girls	36.9	7
Average	34.4			42.5	

Total in All Classes

School	Median Class-Size	Rank
Commerce	34.9	1
Mission	31.9	2
Balboa	31.7	3
Lowell	30.9	4
Galileo	30.3	5
Polytechnic	30.1	6
Girls	28.6	7
Average	31.3	

*Note: In making comparisons, the type and character of the school must be considered. The number of classes in the departments of each school (See Table VI) is also a factor.

Table IX shows the median class-size by departments in San Francisco for two terms, (Spring 1931 and Fall 1931) and also a comparison with the average class-size in senior and combination high schools of Los Angeles as of March 1931.

Table IX

Department	San Francisco		Los Angeles
	Spring 1930-1931	Fall 1931-1932	March 1931
Art	26.1	26.0	24.10
Commercial	35.4	34.4	28.25
English	31.6[1]	32.6[2]	28.82
Language	29.6[1]	30.2[2]	24.52
Household Arts	27.6	25.9	20.30
Industrial Arts	25.5	25.9	18.86
Mathematics	32.3	32.1	27.54
Mechanical Drawing	24.8	24.1	
Music	29.3	31.7	27.34[3]
Physical Education	43.4	42.5	39.10[3]
Science	26.7	26.2	27.78
Social Science	35.5	34.9	31.52
Total	31.4	31.3	27.44

1. Does not include Latin.
2. Includes Latin.
3. Average for Boys and Girls.

If all the high school classes be distributed in five class-sizes, namely classes with less than 20 pupils, 20 to 24 pupils, 25 to 29 pupils, 30 to 34 pupils, and more than 35 pupils, they would appear as follows in Tables X and XI. Table X shows the distribution by number of classes, by schools, and Table XI shows the percentage of classes in each of the five class-sizes by schools.

Table X

Number of Classes in each Class-Size

Size of Class	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Poly-technic	Total
35 or over	154	220	146	58	136	155	159	1028
30-34	98	104	125	73	113	99	83	695
25-29	111	76	127	71	111	117	116	729
20-24	68	39	119	83	94	60	92	555
Less than 20	7	3	10	17	5	2	30	74
Total	438	442	527	302	459	433	480	3081

Table XI

Percentage of classes in each Class-Size

Size of Class	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Poly-tech-nic	Tot-al
35 or over	35.20	49.80	27.70	19.20	29.70	35.80	33.10	33.40
30-34	22.40	23.50	23.70	24.20	24.70	22.90	17.30	22.60
25-29	25.20	17.20	24.10	23.60	24.00	27.10	24.20	23.60
20-24	15.60	8.80	22.60	27.40	20.50	13.80	19.20	18.00
Less than 20	1.60	.70	1.90	5.60	1.10	.40	6.20	2.40
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The following figures show the comparative percentages in the five class-sizes for the spring term 1930-1931 and the fall term 1931-1932.

Size of Class	All High School Classes Spring Term 1930-1931	All High School Classes Fall Term 1931-1932
35 or over	33.10	33.40
30-34	23.20	22.60
25-29	23.00	23.60
20-24	17.40	18.00
Less than 20	3.30	2.40

Class Size
San Francisco Continuation School

The following table shows the distribution of classes in the San Francisco Continuation School by departments. Each class listed in the distribution meets once per week, the length of the period being two clock hours.

Table XII

Class-Size - San Francisco Continuation School

	Com-mer-cial	English for-eigners	English	Home Econ-omics	Math-emat-ics	Social Sci-ence	Shop Prac-tice	Total	Per Cent
50 or over	5					1		6)	
45-49	7		1			1		9)	
40-44	7		4		2	3		16)	13.50
35-39	13		4		4	4	2	27)	
30-34	23	1	4	4	4	6	4	46	10.70
25-29	32	8	18	9	3	9	17	96	22.30
20-24	24	15	36	26	14	14	28	157	36.50
15-19	6	4	6	5	3	6	10	40)	
10-14	2	8	4	6		1	9	30)	17.00
5-9	1	2						3)	
1-4									
	120	38	77	50	30	45	70	430	100.00
Median	29.2	21.6	23.7	22.7	24.3	25.8	22.9	24.5	

There are 73 classes with an enrollment of less than 20 pupils, distributed among the departments as follows:

Commercial	9
English for Foreigners	14
English	10
Home Economics	11
Mathematics	3
Social Science	7
Shop Practice	19
Total	73

The median size of all classes is 24.5 ranging from 29.2 in commercial subjects to 21.6 in English for foreigners. The median size of all classes for the spring term, 1930-31 was 24.1 as compared with 24.5 for the fall term 1931-32.

The following tabulation shows the percentage of classes of several sizes for the spring term 1930-31 and for the fall term 1931-32

Size of Class	Per Cent of All Classes	
	Spring 1930-31	Fall 1931-32
35 or over	12.30	13.50
30-34	12.10	10.70
25-29	16.00	22.30
20-24	52.90	26.50
Less than 20	6.70	17.00

L125 Bulletin #35

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

[illegible]

UNIVERSITY OF CALIFORNIA

THE COMPETITIVE EXAMINATION PLAN FOR JUNIOR HIGH, CONTINUATION, AND SENIOR HIGH SCHOOL POSITIONS IN THE SAN FRANCISCO PUBLIC SCHOOLS

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THE COMPETITIVE EXAMINATION PLAN FOR JUNIOR HIGH, CONTINUATION, AND SENIOR HIGH SCHOOL POSITIONS IN THE SAN FRANCISCO PUBLIC SCHOOLS

I. INTRODUCTION

In April, 1931, the San Francisco Board of Education adopted a plan of teacher selection for secondary schools. This plan consisted of a written examination covering English Usage, The World Today, and School and Classroom Procedure; an evaluation of amount of training and experience; an evaluation of quality of training and experience; and a personal interview.

The several parts of the examination plan had the following value:

1.	Written Examination	- 300	points
2.	Amount of Training and Experience	- 200	"
3.	Quality of Training and Experience	- 300	"
4.	Personal Interview	- 200	"
		1000	"

II. APPLICANTS

Applicants for junior high, Continuation School, and high school positions numbered 1011. Of this group 364 were applicants for junior high positions and 647 were candidates for Continuation School and for high school positions.

There were 135 (37%) elementary school teachers from the San Francisco Public Schools, and 229 (63%) elementary, junior high, and senior high teachers from without the San Francisco Public Schools as candidates for junior high positions.

For Continuation School and for high school positions, there were 236 (36%) elementary and junior high teachers from within the San Francisco Public Schools, and 411 (64%) junior high and high school teachers from without the San Francisco Public Schools.

The lists of applicants were arranged according to subject to be taught so each candidate had only to compete with other candidates in the same subject field.

TABLE I - APPLICANTS FOR POSITIONS IN SAN FRANCISCO

Applicants From	For Positions in Junior High	For Positions in Continuation School and in High School	Total
San Francisco Public Schools	135	236	371
Outside San Francisco Public Schools	229	411	640
TOTAL	364	647	1011

III. THE WRITTEN EXAMINATION

The written examination was taken by approximately 656 applicants from without the San Francisco Public Schools. San Francisco teachers were exempted from the examination. The grades made in parts 2,3, and 4 of the Introduction (page 1) by teachers within the Department, were multiplied by 10/7ths in order to place both groups on a 1000-point scale. A report of the written examination is found in Bulletin No. 28, July, 1931, Department of Educational Research and Service, "The Written Examination for Applicants for Junior and Senior High School Positions."

IV. THE AMOUNT AND QUALITY OF TRAINING AND EXPERIENCE

1. Training

The amount and quality of training and experience of applicants within the Department was evaluated from case history cards on file in the Personnel office. A committee of two high school teachers and an assistant in the Department of Educational Research and Service evaluated all training credentials and experience of the applicants from without the Department. Evidences of training, credentials, and experience were submitted to this committee. The following scale was used for evaluating:

Amount of Training:

Not less than a master's degree	135	points
Not less than 24 semester hours or one year above a bachelor's degree	125	"
Four years of work (as evidenced by a bachelor's degree)	100	"
Less than four years of training	0	"
For teachers in San Francisco Public Schools	25	" per year of training above high school.

Table II below shows the training of the applicants distributed according to the above scale. It should be read as follows: Of the applicants for teaching Mathematics in the high schools, 5 teachers within the Department and 8 teachers outside the Department had M.A. degrees; 9 teachers within the Department and 24 teachers outside the Department had 24 semester hours or one year above the A.B. degree; and 6 teachers within the Department and 2 teachers outside the Department had a degree of A.B.

TABLE II

Amount of Training - Applicants for Positions in Junior High, Continuation School, and High Schools of San Francisco

Subject	M.A.Degree (135 points)				24 Semester Hrs. or One Year Above A.B. Degree (125 points)				A.B.Degree (100 points)				Less than 4 Years (no points)*			
	Jr.High		Sr.High		Jr.High		Sr High		Jr.High		Sr.High		Jr.High		Sr.High	
	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side	S.F.	Out-side
Americanization			1									1				1
Art and Drawing			2	3	1	6	6	8	6	8	7	6	3	2	3	4
Commercial			2	12		2	13	32	3	1	8	5	2		8	1
English	1		7	17	1	21	17	41	18	18	4	3	4		1	
French			1	10		2	4	6	2	1					1	
German				4			2	2			1					
Home Economics		1	1	2		5	6	8	4	5	1	6	5		1	
Industrial Arts			1			1	3	2	2	4	6	4	8	14	20	17
Italian						3	3	2								
Latin		4	3	5			2			1		4				
Library						1	2	5	1	4						
Mathematics		2	5	8	2	4	9	24	6	7	6	2				
Music - Choral				2	1	3	3	4	5	6	2	4	2	3	5	1
Music-Instrumental						2		4	1	5	1	3		5	3	1
Phys.Ed.(Boys)			1			2	4	8	1	4	3	7			2	
Phys.Ed.(Girls)				1			5	10	9	15	3	6	2	1	1	
Science		2	4	15	1	7	3	20	7	5	2	1	2			
Social Studies		9	8	31	5	19	23	21	21	18	1	1	8			
Spanish		4	1	3		2	3	22			1	1	1			
TOTAL	1	22	37	115	11	80	108	219	86	102	46	54	37	25	45	25

*Applicants already in the San Francisco School Department received 25 points for each year of training beyond high school.

TABLE III

Summary of Amount of Training of Applicants for Positions in the Junior High Schools

Applicants from	No. of Applicants	M. A. Degree		24 Semester Hrs. or One Year Above A.B.Degree		A. B. Degree		Less than 4 years	
		No.	%	No.	%	No.	%	No.	%
San Francisco Public Schools	135	1	.7*	11	8	86	64	37	27
Outside San Francisco Public Schools	229	22	10	80	35	102	45	25	11
TOTAL	364	23	6	91	25	188	52	62	17

* Per cents are approximate throughout.

Table III above shows the numbers and per cents of the 364 applicants for the positions in the junior high schools who had the different amounts of training.

TABLE IV

Summary of Amount of Training of Applicants for Positions in the Continuation School and in the High Schools

Applicants from	No. of Applicants	M. A. Degree		24 Semester Hrs. or One Year Above A.B.Degree		A.B. Degree		Less than 4 years	
		No.	%	No.	%	No.	%	No.	%
San Francisco Public Schools	236	37	16*	108	46	46	19	45	19
Outside San Francisco Public Schools	411	113	27	219	53	54	13	25	6
TOTAL	647	150	23	327	50	100	15	70	10

*Per cents are approximate throughout.

Table IV above shows the number and per cent of the 647 applicants for positions in the Continuation School and in the high schools.

2. Certification

The certification of the applicants for positions in the junior high, Continuation School, and high schools was rated by the Committee according to the following scale:

Type and grade of credential:

General secondary credential ---------- 65 points
General junior high school credential - 50 points
Special secondary credential ---------- 20 points
Special junior high credential -------- 10 points

Table V below shows the distribution of the type of certificates of the 364 applicants for the junior high positions, and 647 applicants for the Continuation School and the high school positions. It should be read as follows: Of the applicants for teaching Home Economics in the high schools, 6 teachers within the Department and 10 teachers outside of the Department had a General Secondary Certificate; 5 teachers within the Department and 6 teachers outside the Department had Special Secondary Certificates.

TABLE V

Type and Grade of Credential

Subject	General Secondary (65 points)				General Junior High (50 points)				Special Secondary (20 points)				Special Junior High (10 points)			
	Jr. High		Sr. High		Jr. High		Sr. High		Jr. High		Sr. High		Jr. High		Sr. High	
	S.E	Outside	S.E.	Outside	S.E.	Outside	S.E.	Outside	S.E.	Outside	S.E.	Outside	S.E.	Outside	S.E.	Outside
Americanization											1	2				
Art and Drawing			3	8	9	11			2	4	13	13		1		
Commercial			19	45	3	39			2		13	5				
English			28	61	24						1					
French			5	16	1	3					1					
German			3	6												
Home Economics			6	10	3	10			4	1	5	6	2			
Industrial Arts			3	2	1	4	1		9	14	26	19		1		
Italian			3	2		3										
Latin			5	9	1	4										
Library			1	4	1	5					1	1				
Mathematics			22	34	8	14										
Music - Choral			2	4	6	5		2	1	6	6	7	1	1		
Music-Instrumental				4	1	4				8	4	4				
Phys.Ed.(Boys)			4	8		1	1		1	5	4	7				
Phys.Ed.(Girls)			4	10	10	14			1	1	4	7		1		
Science			9	36	11	14										
Social Studies			33	53	33	46			1							
Spanish			5	26	1	6										
TOTAL	0	0	155	338	113	183	2	2	21	39	79	71	3	4	0	0

TABLE VI

Summary of Type and Grade of Credentials of Applicants for Positions in the Junior High Schools

Applicants from	General Junior High		Special Secondary		Special Junior High		Total
	No.	%	No.	%	No.	%	
San Francisco Public Schools	111	81*	21	15	3	2	135
Outside San Francisco Public Schools	186	82	39	17	4	1.7	229
TOTAL	297	82	60	17	7	2	364

*Per cents are approximate throughout.

Table VI above shows the number and per cent of the 364 applicants for positions in the junior high school who had the various types of certificates.

Applicants with general secondary certificates who took the junior high examination were given credit for general junior high certificate (50 points) only.

TABLE VII

Summary of Type and Grade of Credentials of Applicants for Positions in Continuation School and in High Schools

Applicants from	General Secondary Certificate		General Junior High Certificate		Special Secondary Certificate		Special Junior High Certificate		No. of Applicants
	No.	%	No.	%	No.	%	No.	%	
San Francisco Public Schools	155	65*	2	.8	79	33	0	0	236
Outside San Francisco Public Schools	338	82	2	.4	71	17	0	0	411
TOTAL	493	76	4	.6	150	23	0	0	647

*Per cents are approximate throughout.

Table VII above shows the number and per cent of candidates for positions in the Continuation School and in the high schools who had the various types of certificates.

3. Quality of Training and Experience

The quality of training and experience was rated by the committee as follows:

Quality of training and experience:

Superior (better than 8 or 9 out of 10)-- 300 points

Above average (better than 7 out of 10)-- 255 "

Average ---------- 210 "

Below average (excelled by 7 out of 10)-- 165 "

Inferior (excelled by 8 or 9 out of 10)-- 120 "

Table VIII shows the distribution of the quality of training and experience of the 1011 applicants for positions in the junior high, Continuation School, and high schools. It should be read as follows:

> Of the applicants for the teaching of mathematics in the high schools, 2 teachers within the Department and 6 teachers outside the Department were rated as "Superior"; 11 teachers within the Department and 23 teachers outside the Department were rated "Above Average"; and 9 teachers within the Department and 5 teachers outside the Department were rated "Average".

TABLE VIII

Quality of Training and Experience of Applicants for Junior High, Continuation School, and High School Positions

Subject	Superior (300 points)				Above Average (255 points)				Average (210 points)				Below Average or Inferior (165-120 points)			
	Jr.High		Sr.High		Jr.High		Sr.High		Jr.High		Sr.High		Jr.High		Sr.High	
	S.F.	Outside	S.F.	Outside	S.F.	Outside	S.F.	Outside	S.F.	Outside	S.F.	Outside	S.F.	Outside	S.F.	Outside
Americanization				1			1	1								
Art and Drawing	2	4	6	5	8	2	9	12	1	10	1	4			1	
Commercial		1	6	4	2	2	16	38	2		8	8	1		1	
English	3	6	6	21	18	28	19	31	3	4	3	9		1		
French				1	1	3	3	8	1		3	7				
German				1			3	1				4				
Home Economics		2	1	5	8	8	7	11	1		3	1				
Industrial Arts		3	3	5	5	14	16	16	4	2	10		1			
Italian						1	2	2		2	1					
Latin		1	1	1		3	4	8	1		4	1				
Library		1	2	1		2		4		1		1		1		
Mathematics	2	1	2	6	4	12	11	23	2		9	5		1		
Music - Choral	2	1	3	3	5	9	6	1	1	2	1	6				1
Music-Instrumental		1	1	2	1	8	3	6		3				1		
Phys.Ed. (Boys)		2		1		3	10	2		1		12	1			
Phys.Ed. (Girls)	2	3	1	2	9		8	13		12		1		1		
Science	3		1	7	4	12	4	24	3	2	4	5				
Social Studies	4	4	5	12	22	32	24	29	6	10	4	11	2			1
Spanish		1		6		5	4	16		1	1	4			1	
TOTAL	18	31	38	84	87	144	150	246	25	50	52	79	5	5	3	2

TABLE IX

Summary of Quality of Training and Experience of Applicants for Junior High School Positions

Applicants from	Total	Superior		Above Average		Average		Below Average or Inferior	
		No.	%	No.	%	No.	%	No.	%
San Francisco Public Schools	135	18	13*	87	67	25	19	5	4
Outside San Francisco Public Schools	229	31	13	142	62	50	22	5	2
TOTAL	364	49	13	229	62	75	20	10	2

* The per cents are approximate throughout.

Table IX, page 8, shows the number and per cent of the 364 applicants for positions in the junior high schools who were given the different quality ratings.

TABLE X

Summary of Quality of Training and Experience of Applicants for Positions in the Continuation School and in the High Schools

Applicants from	Total	Superior		Above Average		Average		Below Average or Inferior	
		No.	%	No.	%	No.	%	No.	%
San Francisco Public Schools	236	36	15*	146	61	51	22	3	.1
Outside San Francisco Public Schools	411	84	20	246	60	79	19	2	.4
TOTAL	647	120	19	392	60	130	21	5	.7

* The per cents are approximate throughout.

Table X above shows the summary of the number and per cent of the applicants who were candidates for positions in the Continuation School and in the high schools.

V. THE PERSONAL INTERVIEW

The personal interview was conducted by the Superintendent and the six deputy superintendents sitting en banc, each rating the candidates individually. The separate ratings on each candidate were then averaged into one rating for each candidate by the Personnel Department. Approximately two times the number of candidates were called as were estimated as needed in each of the subject eligible lists. The candidates who were called for this personal interview were those standing highest on the lists on which they were ranked for the written examination (applicants outside the San Francisco Public Schools only), training, credential, and quality of training and experience. For the personal interview a five-point rating scale was used. A rating of "4" on that scale by a majority of those rating any candidate disqualified that candidate from placement on the eligible list.

The average grades in the personal interview were as follows:

For positions in junior high schools:

Inside candidates ------- 144.4
Outside candidates ------ 144.1

For positions in the Continuation School and in the high schools:

Inside candidates ------- 147.3
Outside candidates ------ 147.6

Average of all interviews ------ 145.7

VI. MERGING THE LISTS - THE ELIGIBLE LIST

The list of applicants within the Department and the list of applicants from outside the Department were merged after the grades for the personal interview were added to the applicants' previous scores. The scores of the applicants from within the Department were multiplied by 10/7ths as previously explained. A deduction of 30 points per year for each full year over 45 years of age was made from the total score of the applicants. This disqualified only three candidates from the eligible list.

VII. THE QUALIFIED LIST

By resolution of the Board of Education, the qualified list was made of candidates by subjects as follows:

Subject	Junior High	High School
Americanization	0	3
Art and Drawing	6	4
Commercial	6	14
English	10	22
French	2	4
German	0	2
Home Economics	10	4
Industrial Arts	10	14
Italian	2	2
Latin	2	2
Library	4	6
Mathematics	10	8
Music - Choral	4	4
Music - Instrumental	4	4
Physical Education - Boys	4	8
Physical Education - Girls	6	8
Science	10	14
Social Science	10	12
Spanish	4	6

All positions for the year 1931-1932 are to be filled from the qualified list.

VIII. AVERAGE SCORES

The following section of this report is devoted to average scores made by the applicants. The following abbreviations are used throughout this report:

Eng. --------- English
W. T. -------- World Today
Pro. --------- Teaching Methods and Procedure
Cr. ---------- Type of credential
Exp. Rtg. ---- Quality of Training and Experience
P. I. -------- Personal Interview
Av. X 10/7 --- Average times 10/7ths
Jr. ---------- Junior high applicants
Sr. ---------- Senior high and Continuation School applicants
Out. --------- Applicants from without San Francisco
Total Pt. ---- Total Points
Department --- San Francisco Public Schools
Tr. ---------- Amount of Training

Table XI below, shows the number of cases and the average grades made by candidates from without the Department for junior high school positions in San Francisco Public Schools.

TABLE XI

Average Grades Made by Applicants from Without the Department for Positions in Junior High Schools

Subject Applied for	No. Cases	Written Examination			Training		Exp. Rtg.	P.I.	Final Grade
		Eng.	W.T.	Pro.	Tr.	Cr.			
Art and Drawing	16	69.0	65.8	73.4	96.9	40.0	260.6	143.2	779.5
Commercial	3	76.3	79.8	83.0	116.7	50.0	270.0	158.6	834.3
English	39	78.3	70.8	75.8	113.5	49.2	255.0	145.4	815.0
French	3	74.2	66.0	72.3	116.7	50.0	255.0	147.6	781.8
Home Economics	11	70.8	70.1	77.0	114.5	47.3	259.1	136.6	775.1
Industrial Arts	19	64.0	74.2	65.8	27.6	25.8	257.4	139.1	659.1
Italian	3	75.7	70.0	71.3	125.0	50.0	225.0	151.6	768.6
Latin	4	92.8	80.6	72.5	135.0	50.0	266.3	142.7	839.9
Library	5	73.2	72.6	83.8	105.0	50.0	237.0	141.2	762.8
Mathematics	14	74.8	76.3	77.6	105.0	50.0	251.8	138.4	784.8
Music - Choral	12	71.7	66.2	72.3	81.2	30.8	251.2	152.1	784.2
Music - Instrumental	12	67.3	64.6	64.4	62.5	30.0	240.0	151.1	745.6
Phys.Ed (Boys)	6	66.1	63.9	70.3	108.3	25.0	262.5	154.4	739.2
Phys.Ed (Girls)	16	67.7	68.0	69.5	93.8	45.6	255.0	139.5	770.9
Science	14	69.9	85.2	81.8	120.0	50.0	248.5	140.6	779.8
Social Science	46	72.9	78.9	77.9	116.6	50.0	249.1	139.4	824.1
Spanish	6	75.0	72.6	72.5	116.7	50.0	255.0	131.0	772.7
Total -----	229								
Average ---		73.1	72.9	74.4	100.4	44.0	252.8	144.1	778.7

The average scores made by the 229 applicants for positions in the junior high schools tabulated in Table XI are as follows:

Examination:				
English	73.1			
World Today	72.9			
Procedure	74.4			
Training	100.4	out of a	possible	135
Credential	44.0	" "	"	65
Experience	252.8	" "	"	300
Personal Interview	144.1	" "	"	200
Final Grade	778.7	" "	"	1000

TABLE XII

Ranking of Average Grades of Candidates from Without the Department for Positions in Junior High Schools.

Subject Applied for	No. Cases	Written Examination			Training		Exp. Rtg.	P.I.	Final Grade
		Eng.	W.T.	Pro.	Tr.	Cr.			
Art and Drawing	16	13	15	8	13	13	4	8	9
Commercial	3	3	3	2	4	1	1	1	2
English	39	2	9	7	9	10	7	7	4
French	3	7	14	11	4	1	7	6	7
Home Economics	11	11	10	6	8	11	5	16	10
Industrial Arts	19	17	6	16	17	16	6	13	15
Italian	3	4	11	13	2	1	7	4	13
Latin	4	1	2	9	1	1	2	9	1
Library	5	8	7	1	11	1	17	10	14
Mathematics	14	6	5	5	11	1	12	15	5
Music - Choral	12	10	13	11	15	14	13	3	6
Music - Instrumental	12	15	16	17	16	15	16	5	16
Phys. Ed - (Boys)	6	16	17	14	10	17	3	2	17
Phys. Ed - (Girls)	16	14	12	16	14	12	7	12	12
Science	14	12	1	3	3	1	15	11	8
Social Science	46	9	4	4	7	1	14	14	3
Spanish	6	5	7*	9	4	1	7	17	11
TOTAL	229								

*Wherever ranks were tied the same rank number was given.

Table XII above, shows the rank order of average grades of candidates in the various parts of the examination plan. It should be read as follows:

The average grade of the 39 candidates for positions in English in the junior high schools or in the Continuation School gave them 2nd place in the English section of the written examination, 9th place in "World Today", 7th place in "Methods and Procedure", 9th place in evaluation of training, 10th place in credential evaluation, 7th place in experience rating, 7th place in the personal interview, and 4th place in total points.

TABLE XIII

Average Grades Made by Applicants from Without the Department for Positions in the Continuation School and in the High Schools

Subject Applied for	No. Cases	Written Examina.			Training		Exp. Rtg.	P. I.	Final Grade
		Eng.	W. T.	Proc.	Tr.	Cr.			
Americanization	2	93.0	77.0	58.0	50.0	20.0	277.5	177.5	753.0
Art and Drawing	21	70.8	71.7	69.8	95.4	41.3	256.2	150.8	844.8
Commercial	51	75.8	76.5	73.3	120.0	59.7	243.4	145.4	843.1
English	61	83.8	77.6	77.6	124.5	63.9	252.0	145.1	867.3
French	16	79.7	72.9	74.9	130.6	65.0	232.5	144.5	837.7
German	6	71.9	76.3	78.0	131.7	65.0	240.0	142.8	840.2
Home Economics	17	68.1	70.2	58.8	110.6	44.1	259.3	141.2	830.9
Industrial Arts	21	64.6	76.7	62.7	31.0	23.3	265.7	144.7	674.2
Italian	2	74.0	69.5	65.0	125.0	65.0	255.0	146.0	779.5
Latin	9	84.8	70.6	79.4	130.5	65.0	250.0	154.5	860.7
Library	5	87.0	76.5	76.7	125.0	56.0	246.0	150.3	817.6
Mathematics	34	75.5	76.8	76.6	126.2	65.0	256.3	138.3	848.5
Music - Choral	11	74.0	70.3	69.4	107.9	35.0	258.7	144.1	929.8
Music - Instrumental	8	72.6	67.9	68.0	100.0	42.5	266.3	154.4	771.6
Phys. Ed. - (Boys)	15	64.8	67.2	69.1	113.3	44.0	252.0	148.5	758.9
Phys. Ed. - (Girls)	17	70.8	66.1	74.1	110.9	46.5	257.6	146.0	782.5
Science	36	76.3	87.9	81.6	128.5	65.0	257.5	139.2	853.6
Social Science	53	75.3	80.2	77.9	128.0	63.8	245.6	154.3	876.2
Spanish	26	81.9	67.5	75.1	125.1	65.0	246.9	134.1	840.9
TOTAL AVERAGE	411	76.0	75.7	74.2	116.3	56.7	251.6	145.5	837.5

Table XIII shows the average scores made by the applicants from without the Department for high school positions. The average scores made by all applicants tabulated in Table XIII are as follows:

Examination					
English ------	76.0				
World Today --	75.7				
Procedure ----	74.2				
Training --------	116.3	out of	a possible		135
Credential ------	56.7	" "	"	"	65
Experience ------	251.6	" "	"	"	300
Personal Interview	145.5	" "	"	"	200
Final Grade -----	837.5	" "	"	"	1000

TABLE XIV

Ranking of Averages of Candidates from Without the Department for Positions in the Continuation School and in the High Schools

Subject Applied for	No. Cases	Written Examination			Training		Exp. Rtg.	P.I.	Final Grade
		Eng.	W. T.	Proc.	Tr.	Cr.			
Americanization	2	1	4	19	18	19	1	1	18
Art and Drawing	21	15	11	12	17	16	8	5	7
Commercial	51	8	7	11	11	10	17	10	8
English	61	4	3	5	10	8	11	11	3
French	16	9	10	9	2	1	19	13	11
German	6	14	9	3	1	1	18	15	10
Home Economics	17	17	14	18	14	13	4	16	12
Industrial Arts	21	19	6	17	19	18	3	12	19
Italian	2	12	15	16	8	1	10	8	14
Latin	9	3	12	2	3	1	13	2	4
Library	5	2	7	6	8	11	15	6	13
Mathematics	54	9	5	7	6	1	9	18	6
Music - Choral	11	12	13	13	15	17	5	14	1
Music - Instrumental	8	13	16	15	16	15	2	3	16
Phys. Ed. - (Boys)	15	18	18	14	12	14	11	7	17
Phys. Ed. - (Girls)	17	15	19	10	13	12	6	8	15
Science	36	7	1	1	4	1	7	17	5
Social Studies	55	10	2	4	5	9	16	4	2
Spanish	26	5	17	8	7	1	14	19	9
TOTAL	411								

Table XIV above, shows the rank order by subjects of candidates from without the Department in the various parts of the examination.

Table XV, page 15, shows the average grades made by teachers within the Department who were candidates for junior high positions. The final scores made by teachers within the Department were multiplied by 10/7ths in order to merge the inside list with the outside list on a 1000 point scale. The teachers within the Department were exempt from the written examination. The average scores of the total group were approximately as follows:

Training ----------	91.8	out of a possible 135
Credential ----------	42.2	" " " " 65
Experience ----------	239.3	" " " " 300
Personal Interview -----	144.4	" " " " 200
Final Score ----------	798.9	" " " " 1000

TABLE XV

Average Grades Made by San Francisco Public School Teachers Who Were Candidates for Positions in the Junior High Schools

Subject Applied for	No. Cases	Training		Exp. Rtg.	P.I.	Average	Average X 10/7ths
		Tr.	Cr.				
Art and Drawing	11	95.5	44.5	259.0	163.5	564.8	852.9
Commercial	5	85.0	38.0	219.0	130.0	476.2	714.3
English	23	98.3	50.0	255.0	142.3	543.3	816.4
French	2	100.0	50.0	231.0	147.0	530.0	814.2
Home Economics	9	75.0	28.0	250.0	146.5	493.7	771.4
Industrial Arts	10	35.0	23.0	228.0	143.8	435.0	664.6
Latin	1	100.0	50.0	255.0	110.0	515.0	735.7
Library	1	100.0	50.0	225.0	135.7	540.7	772.4
Mathematics	8	106.5	50.0	255.0	145.0	563.6	861.9
Music - Choral	8	115.6	41.2	260.6	152.9	568.7	883.7
Music - Instrumental	1	100.0	50.0	255.0	148.6	553.6	790.8
Phys. Ed. (Boys)	1	100.0	20.0	165.0	--- -	--- -	--- -
Phys. Ed. (Girls)	11	95.4	47.2	265.1	153.2	559.2	823.4
Science	11	100.0	50.0	246.8	134.8	548.5	824.6
Social Science	32	97.0	49.1	247.0	146.1	549.1	834.3
Spanish	1	25.0	50.0	165.0	--- -	--- -	--- -
TOTAL -----	135						
AVERAGE----		91.8	42.2	239.3	144.4	532.4	798.9

TABLE XVI

Ranking of Averages of Candidates from Within the Department for Positions in the Junior High Schools

Subject Applied for	No. Cases	Training		Exp. Rtg.	P. I.	Final Grade
		Tr.	Cr.			
Art and Drawing	11	10	11	3	1	3
Commercial	5	12	13	4	13	13
English	23	8	1	14	10	7
French	2	3	1	11	5	8
Home Economics	9	13	14	8	6	11
Industrial Arts	10	14	15	12	9	14
Latin	1	3	1	4	14	12
Library	1	3	1	13	11	10
Mathematics	8	2	1	4	8	2
Music - Choral	8	1	12	2	3	1
Music - Instrumental	1	3	1	4	4	9
Phys. Ed. (Boys)	1	3	16	15	-	-
Phys. Ed. (Girls)	11	11	10	1	2	6
Science	11	3	1	10	12	5
Social Studies	32	9	9	9	7	4
Spanish	1	15	1	15	-	-
TOTAL	135					

Table XVI, page 15, shows the ranking of applicants from within the Department, according to subject.

Table XVII, below, shows the average grades made by teachers within the Department who were candidates for Continuation School and for high school positions. The total average of this group was:

Training ----------	104.9	out of a possible	135
Credential --------	47.6	" " " "	65
Experience --------	256.3	" " " "	300
Personal Interview-	147.3	" " " "	200
Final Grade -------	859.6	" " " "	1000

TABLE XVII

Average Grades Made by San Francisco Public School Teachers Who Were Candidates for Continuation School and High School Positions

Subject Applied For	No. Cases	Training		Exp. Rtg.	P. I.	Average	Average X 10/7th
		Tr.	Cr.				
Americanization	1	135.0	20.0	255.0	147.5	557.5	796.4
Art and Drawing	18	105.3	32.6	266.9	154.1	572.2	868.5
Commercial	31	95.8	44.0	249.1	145.1	539.4	865.6
English	29	121.3	60.0	261.2	147.5	596.0	895.9
French	6	143.3	57.5	232.5	141.6	541.6	864.2
German	3	116.6	65.0	255.0	135.0	571.6	840.3
Home Economics	9	100.9	44.5	246.5	148.1	546.6	890.3
Industrial Arts	30	47.8	25.5	246.0	140.4	463.8	763.9
Italian	3	125.0	65.0	240.0	143.7	633.7	878.6
Latin	5	129.0	65.0	264.0	142.0	600.0	884.2
Library	2	125.0	42.5	300.0	164.0	631.5	960.0
Mathematics	20	119.8	65.0	240.7	143.9	556.2	858.1
Music - Choral	10	75.0	35.0	264.0	150.8	524.8	837.4
Music - Instrumental	4	68.7	20.0	266.2	165.5	507.2	805.7
Phys. Ed. (Boys)	10	106.0	41.0	255.0	150.2	552.2	839.2
Phys. Ed. (Girls)	9	111.1	43.3	259.9	151.3	565.7	855.3
Science	9	123.8	65.0	240.0	146.4	572.9	891.6
Social Studies	32	126.9	65.0	261.8	144.0	592.5	878.8
Spanish	5	122.0	65.0	246.0	141.5	574.5	864.2
TOTAL AVERAGE	236	122.2	49.6	255.9	147.4	558.7	871.9

TABLE XVIII

Ranking of Averages of Candidates From Within the Department for Positions in the Continuation School and in the High Schools

Subject	No.of Cases	Training		Exp. Rtg.	P. I.	Final Grade
		Tr.	Cr.			
Americanization	1	2	18	9	8	18
Art and Drawing	18	14	16	2	3	8
Commercial	31	16	11	12	11	9
English	29	9	8	7	8	2
French	6	1	9	19	16	10
German	3	11	1	9	19	14
Home Economics	9	15	9	13	7	4
Industrial Arts	30	19	17	14	18	19
Italian	3	5	1	17	14	7
Latin	5	3	1	4	15	5
Library	2	5	13	1	2	1
Mathematics	20	10	1	16	13	12
Music - Choral	10	17	15	4	5	16
Music - Instrumental	4	18	18	3	1	17
Phys. Ed. (Boys)	10	13	14	9	6	15
Phys. Ed. (Girls)	9	12	12	8	4	13
Science	9	7	1	17	10	3
Social Studies	32	4	1	6	12	6
Spanish	5	8	1	14	17	10
TOTAL	236					

Table XVIII, above, shows the ranking by subject of the candidates in the Department for Continuation School and high school positions.

TABLE XIX

Summary of Training, Credentials, Experience, Personal Interview, and Total Average Ratings

Candidates	No. of Cases	Tr.	Cr.	Experience	Personal Interview	Total Points
For Junior High by S.F.Teachers	135	91.8	42.2	239.3	144.4	798.9
For Junior High by Outside Teachers	229	100.4	44.0	252.8	141.1	778.7
For Senior High by S.F.Teachers	236	122.2	49.6	255.9	147.4	871.9
For Senior High by Outside Teachers	411	116.3	56.7	251.6	145.5	837.5
TOTAL -----	1011					
AVERAGE ---		106.8	44.9	251.3	145.7	818.9

Table XIX shows the average ratings for training, credentials, quality of experience, personal interview, and total points of the 1011 candidates for positions in the San Francisco Public Schools.

TABLE XX

Junior High Applicants Qualified and Placed

Subject	No. of Candidates		No. to be Qualified	No. Qualified		No. Placed		No. Remaining on List	
	S. F.	Outside		S.F.	Outside	S.F.	Outside	S.F.	Outside
Art and Drawing	9	13	6	4	2	4	0	-	2
Commercial	4	5	6	2	3	2	0	-	3
English	24	20	10	7	3	7	0	1	2
French	2	3	4	1	3	1	0	0	3
Home Economics	7	11	10	2	8	2	0	0	8
Italian	-	3	2	-	2	-	-	-	2
Industrial Arts	8	21	10	4	6	4	-	-	6
Latin	1	5	2	-	2	-	-	-	2
Library	1	5	4	1	3	-	2	1	1
Mathematics	7	12	10	4	6	3	-	1	6
Music-Choral	6	7	4	3	1	2	-	1	1
Music-Instrumental	1	7	4	1	3	1	2	-	1
Phys. Ed. (Boys)	-	5	4	-	4	-	4	-	-
Phys. Ed. (Girls)	10	11	6	5	1	5	-	-	1
Science	8	12	10	3	7	3	-	-	7
Social Studies	28	20	10	6	4	5	-	1	4
Spanish	-	6	4	-	4	-	-	-	4
TOTAL	116	166	106	43*	62	39	8	5	53

*Eight of these forty-three eligibles were due to previous placements.

TABLE XXI

Continuation School and High School Applicants Qualified and Placed

Subject	No. of Candidates		No. to be Qualified	No. Qualified		No. Placed		No. Remaining on List	
	S.F.	Outside		S.F.	Outside	S.F.	Outside	S.F.	Outside
Americanization	1	2	3	1	2	-	-	1	2
Art and Drawing	16	8	4	4	-	1	-	3	-
Commercial	28	26	14	8	5	5	-	4	5
English	28	40	22	10	13	1	-	8	13
French	5	8	4	2	2	-	-	2	2
German	3	4	2	-	2	-	-	-	2
Home Economics	11	8	4	3	1	1	-	2	1
Italian	2	2	2	1	1	-	-	1	1
Industrial Arts	30	20	14	10	4	-	-	10	4
Latin	5	4	2	1	1	-	-	1	1
Library	2	5	6	1	5	1	-	-	5
Mathematics	21	14	8	4	4	-	-	4	4
Music - Choral	10	7	4	4	-	1	-	3	-
Music - Instrumental	4	8	4	1	3	1	-	-	3
Phys. Ed.- (Boys)	10	15	8	4	4	2	-	2	4
Phys. Ed.- (Girls)	8	17	8	4	4	2	-	2	4
Science	8	28	14	2	13	1	-	1	13
Social Studies	32	23	12	4	8	2	-	2	8
Spanish	5	12	6	2	4	-	-	2	4
TOTAL	229	251	141	66*	75	18	0	48	75

*Three of these sixty-six eligibles were due to previous placements.

TABLE XXII

Number and Per Cent of Total Candidates Qualifying

Applicants from	For Junior High Positions			For Continuation School and High School Positions			Total
	Number Applic.	Number Qualif.	Per Cent Qualif.	Number Applic.	Number Qualif.	Per Cent Qualif.	
San Francisco Public Schools	135	43	31	236	66	28	371
Outside San Francisco Public Schools	229	62	27	411	75	18	640
TOTAL	364	105*	29	647	141	22	1011

*Only 105 of the 106 candidates needed for the eligible list qualified.

Table XXII above shows the number and per cent of the total candidates qualifying. Of the 364 candidates who competed for the 105 places on the junior high eligible list, 43 or 40.9 per cent were from within the Department, and 62 or 59.0 per cent were from outside the Department.

Of the 647 candidates for the 141 positions on the Continuation School and high school eligible list, 66 or 46.8 per cent were from within the Department, and 75 or 53.0 per cent were from without the Department.

TABLE XXIII

Summary of Candidates Qualified and Placed

Candidates for	No. to be Qualified	No. Qualified		No. Placed		No. Remaining on List	
		S. F.	Outside	S.F.	Outside	S.F.	Outside
Junior High Schools	106	43*	62	39	8	5	54
Continuation School and High Schools	141	66**	75	18	0	47	75
TOTAL	247	109	137	57	8	52	129

* Eight candidates within the Department qualified due to previous placement.

**Three candidates within the Department qualified due to previous placement.

IX. SUMMARY

1. Applicants

1. There were 1011 applicants, of whom 364 were candidates for junior high positions, and 647 were candidates for Continuation School and for high school positions.

2. For junior high positions, 135, or 37 per cent, were from within the Department, and 229, or 63 per cent, were from without the Department.

3. For Continuation School and high school positions, 236, or 36 per cent, were from within the Department, and 411, or 64 per cent, were from without the Department.

4. The written examination was taken by 656 applicants from without the Department.

2. Training

5. Six per cent of the junior high candidates had a degree of M.A.; 25 per cent had 24 semester hours or one year above the A. B. degree; 52 per cent had an A. B. degree; and 17 per cent had less than 4 years' training.

6. Twenty-three per cent of the Continuation School and high school candidates had a degree of M. A.; 50 per cent had 24 semester hours, or one year above the A. B. degree; 15 per cent had the A.B. degree only, and 10 per cent had less than 4 years' training.

3. Credential

7. Of the applicants for junior high positions, 82 per cent had general secondary or junior high credentials; 17 per cent had special secondary credentials; and 2 per cent had special junior high credentials.

8. Seventy six per cent of the applicants for the Continuation School and high school positions had general secondary credential; 23 per cent had special secondary certificates, and 1 per cent had a general junior high certificate.

4. Quality of Training

9. Of the applicants for junior high positions, 13 per cent were rated "Superior"; 62 per cent were rated "Above Average"; 20 per cent were rated "Average"; and 2 per cent were rated "Below Average".

10. For positions in the Continuation School and in the high schools, 19 per cent of the applicants were rated "Superior"; 60 per cent were rated "Above Average"; 21 per cent were rated "Average"; and 0.7 per cent were rated "Below Average".

5. Personal Interview

11. The average grades in the personal interview for junior high candidates were as follows: San Francisco candidates, 144.4; outside of San Francisco candidates, 144.1.

12. The average grades in the personal interview for Continuation School and senior high candidates were as follows: San Francisco candidates, 147.3; outside of San Francisco candidates, 147.6.

6. Candidates Qualified and Placed

13. Of 135 San Francisco applicants for positions in the junior high schools, 43 or 31 per cent, qualified. Of these, 39 were placed.

14. Of 229 applicants outside of the Department, 62, or 27 per cent, were qualified. Of these, 8 were placed.

15. There were 236 San Francisco applicants for Continuation and high school positions. Of this number, 66, or 28 per cent, qualified. Eighteen have been placed.

16. Seventy-five, or 18 per cent, of the 411 applicants from without the Department were qualified.

17. Of 246 candidates on the qualified list, 65, or 22 per cent, have been placed.

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X

MAR 5 1932

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

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SURVEY OF EVENING SCHOOLS

Bulletin No. 37

December - 1931

Superintendent of Schools
Joseph Marr Gwinn

Assistants
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OFFICE OF THE SUPERINTENDENT OF SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building - Page and Gough Streets

December - 1931

PART I - EVENING HIGH SCHOOLS

1. Credentials - Evening High Schools

The following table shows the number and per cent of credentialized persons in the evening high schools. Of 241 evening school teachers reported on the October report, 116 or 48 per cent had general secondary certificates.

TABLE I

Credentials - Evening High Teachers

School	General Secondary		Special Secondary		Total	
	No.	%	No.	%	No.	%
Eve. H.S.of Comm.	32	52	29	48	61	100
Galileo Evening	11	38	18	62	29	100
Humboldt Evening	27	40	41*	60	68	100
Polytechnic Eve.	18	51	17	49	35	100
Totals	116		125		241	

*Includes 15 teachers of "Short Unit Courses."

2. Salaries

Table II shows the distribution of salaries as reported in the October Report. The greatest number of teachers on any one step was 75, or 31 per cent, at $1355. The next greatest number was 25 or 10 per cent, at $1084. These represent teachers serving 5 and 4 nights, respectively. The next largest number was 25 or 10 per cent at $542 (2 nights per week). Thirteen teachers were on the salary increment of $813. Thirty three teachers are listed as receiving salary at so much per night.

TABLE II

Salaries - Evening High Schools

Salary	Commerce	Galileo	Humboldt	Polytechnic	Total
$2304	1				1
2280			1		1
2004		1		1	2
1836			1		1
1355	41	3	25	5	74
1350	2		1	1	4
1188	1				1
1128	2				2
1084	3	7	11	4	25
1000			1		1
998		1			1
924	3				3
813	4	2	3	4	13
678			1		1
648	1				1
564	1				1
542	1	7[1]	4	13	25
271		2[2]	1		3
5.50			4	3	7
4.50		6[3]	9		15
3.50		1[4]	6	4	11
TOTALS	60	30[5]	68	35	193

[1] Two of these teachers also teach two nights per week at $4.50 per night.
[2] One of these teachers also teaches three nights per week at $4.50 " "
[3] One teacher - 3 nights per week; two teachers - 2 nights per week; three teachers - 1 night per week.
[4] Four nights per week.
[5] Three duplicates included in total.

3. Date of Assignment

Table III shows the reported date of assignment of the evening high school teachers. Polytechnic and Galileo Evening High Schools were opened in 1924.

TABLE III

Date of Assignment

Year	Evening High Schools					Year	Evening High Schools				
	Poly.	Commerce	Galileo	Humboldt	Totals		Poly.	Commerce	Galileo	Humboldt	Totals
1931	6	7	3	6	22	1915				3	3
1930	5	1	3	6	15	1914				1	1
1929	1	1	1	8	11	1913				1	1
1928	11	1	5	2	19	1912		1		1	2
1927	4	9	1	2	16	1911				2	2
1926	1	4	3	3	11	1910		2		1	3
1925	2	6	2	8	18	1909					
1924	8	7	8	6	29	1908				1	1
1923		1		2	3	1904		1			1
1922		3		1	4	1903				2	2
1921		1		2	3	1902		1			1
1920		1		1	2	1896				1	1
1919		1		1	2	1898		1			1
1918		1		3	4	1897					
1917		5		1	6	1892					
1916		1			1	1891		1		1	2
						No dates shown		8			8
Totals	38	50	26	52	166	Totals		15	0	14	29
GRAND TOTALS							38	65	26	66	195

Two teachers were assigned 40 years ago. Ten other teachers were assigned between 1898 and 1910. Twenty-four teachers were assigned between 1910 and 1920. Teachers assigned between 1920 and 1930 numbered 129. Twenty-two teachers were assigned in 1931.

4. Day Occupations

Table IV, following, shows the day occupations of the 195 of the evening high school teachers. Of 195 evening high school teachers, 110 are San Francisco day-time teachers; seventeen were substitutes by day in the San Francisco schools, teachers by day in other school departments, or private school teachers. Sixteen were unemployed and were employed in other work than teaching.

Table IV - Day Occupations of Evening School Teachers

Occupation	Poly	Commerce	Galileo	Humboldt	Total
Antique Dealer		1			1
Accountant		1		2	3
Commercial Artist		1			1
Clerk-S.F.Water Co.		1			1
Dentist		1			1
Deputy-S.F.Tax Office		1			1
Decorator				1	1
Dietitian				1	1
Draftsman				1	1
Electrician	2				2
Engineer				8	8
Instructor-U.of C.				1	1
Instructor-Stanford				1	1
Lawyer	1	7		2	10
Librarian		2			2
Metallurgist				2	2
Offices-City Hall				4	4
Otis Elevator Co.	1				1
Pac.Tel.& Tel.Co.			3		3
Port Inspector				1	1
Post Office Dept.		1			1
Radio - K.P.O.			1		1
Sales Training and Publicity		1			1
Teachers - S.F.Public Schools	25	34	20	31	110
Teachers - Substitutes	3	3		3	9
Teachers - Public Schools outside San Francisco	1	3	1		5
Teachers - Private		2			2
Teachers - Temporary, in mornings		1			1
Unemployed	4	5	1	6	16
Welder	1			2	3
TOTALS	38	65	26	66	195

5. Number of Nights Taught

Table V shows the number of nights taught by the evening high school teachers. Twenty-one of the 38 Polytechnic teachers served two nights per week; 53 of the 65 Evening High School of Commerce teachers taught five nights; 9 of the 26 Galileo teachers taught 4 nights, and 31 of the 66 Humboldt teachers taught 5 nights.

There is no uniformity in regard to the number of nights taught among the evening high schools.

Table V - Number of Nights Taught - Evening High Teachers

School	No. of Nights					Total
	1	2	3	4	5	
Polytechnic	1	21	5	3	8	38
Commerce	1	2	6	3	53	65
Galileo	3	5	4	9	5	26
Humboldt	3	13	3	16	31	66
TOTALS	8	41	18	31	97	195

6. Distribution of Evening High Students

Table VI shows the number of evening high school students living in the various areas of the city.

Table VI - Distribution of Evening High Students

Area	Commerce	Galileo	Humboldt	Polytechnic	Total
Richmond	216	53	73	198	540
Sunset	110	13	80	523	726
Balboa	92	8	237	75	412
South of Market St.	341	32	927	103	1403
North Beach	205	362	37	29	633
North of Market St.	720	130	283	445	1578
Marina	46	268	22	15	351
TOTALS	1730	866	1659	1388	5643

The Galileo and Polytechnic Evening High Schools are essentially neighborhood schools; Commerce and Humboldt are city-wide schools.

There are 412 evening high school pupils in the Balboa area. Students in this area now attend schools as follows:

Commerce - 92
Galileo - 8
Humboldt - 237
Poly - 75

Boundaries for the districts listed in Table VI are:

Richmond

West - the Pacific Ocean
South - Fulton Street
East -- Arguello Blvd.
North - U.S.Military Reservation and San Francisco Bay

Sunset

West - the Pacific Ocean
South - Sloat Blvd. and Portola Drive
East - Laguna Honda Blvd. Mt. Sutro, Stanyan St.
North - Lincoln Way

Balboa

West - Junipero Serra Blvd. - Portola Drive
South - the County Line
East - San Bruno Ave. to Rickard Street
North - (See South Boundary of South of Market Area)

South of Market

West - Mt. Sutro, Twin Peaks areas and O'Shaughnessy Blvd. to Thirtieth St.
South - Thirtieth-Castro-Beacon-Mateo Sts.-College-Crescent Avenues-Case-Weldon-Rickard Sts.- San Bruno Ave. to County Line.
East - San Francisco Bay and Waterfront
North - Market St. - Seventeenth St.

North Beach

West - Van Ness Ave. to Pine St.
South - Pine St. to Market - Market St. to Ferry Bldg.
East, North - San Francisco Bay and Waterfront

North of Market

West - Arguello Blvd. - Fulton-Stanyan Sts.
South - Market-Seventeenth Sts.
East - Market St.
North - Pacific Avenue

Marina

West - U.S.Military Reservation
South - Pacific Avenue
East - Van Ness Avenue
North - San Francisco Bay

7. Growth of Evening High Schools

Table VII following shows the average number belonging in the evening high schools over a ten-year span. There has been a steady growth of all evening high schools. The Evening High School of Commerce has shown the greatest growth.

Table VII - Average Number Belonging
(Whole numbers only used)

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Commerce	361	418	438	373	410	740	809	999	1052	1088
Humboldt	487	434	459	507	475	518	614	728	695	755
Galileo				143	182	178	186	316	316	328
Polytechnic				139	165	128	141	218	221	242
Total	848	852	897	1162	1232	1564	1750	2261	2284	2413

Table VIII shows the average daily attendance of evening high schools. The attendance has more than doubled in the ten year period.

Table VIII - Average Daily Attendance

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Commerce	307	348	361	308	344	617	658	802	837	866
Humboldt	405	363	385	428	334	371	453	550	695	578
Galileo				119	153	150	155	240	234	239
Polytechnic				111	125	101	114	175	221	190
Total	712	711	746	966	956	1239	1380	1767	1987	1873

Tables VII and VIII show that while the evening high schools enroll more pupils than formerly, they do not hold this attendance.

8. Per Cent of Attendance

The average per cent of attendance for all evening high schools, shown in Table IX, has gradually dropped from 84 in 1922 to 77 in 1931.

Table IX - Per Cent of Attendance - (Whole numbers only used)

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Commerce	85	83	82	82	84	83	81	80	80	76
Humboldt	83	85	84	84	70	72	74	76	76	77
Galileo				83	84	84	84	76	74	73
Polytechnic				80	75	79	81	81	76	79
Average	84	84	83	82	78	79	80	78	76	77

Table X shows the number of students attending each evening high school per evening by the month through the year as compared with the end of the month enrollment for each school by the month through the year. The evening attendance was obtained in each case by multiplying the average daily attendance for each month by 16/9ths. The evening school session is 2¼ hours in length, or 9/16ths of the legal school day of four hours as fixed by state law. The table also shows for each evening high school the above comparison expressed as an average for the eleven months of the school year and as a per cent.

The comparisons show that while the enrollment of evening high schools is large, the actual number attending at any given time is low.

Table X - Average Evening Attendance Compared with End of Month Enrollment- High Schools

Month	COMMERCE		GALILEO		HUMBOLDT		POLYTECHNIC	
	End Mo. Enroll.	Av.Eve. Attend.	End Mo. Enroll.	Av.Eve. Attend.	End Mo. Enroll.	Av.Eve. Attend.	End Mo. Enroll	Ave Eve. Attend.
1st mo.	2388	1600	1185	433	2580	1053	1000	306
2nd mo.	2423	1613	1297	513	2855	1113	929	329
3rd mo.	2336	1496	1325	455	2751	1039	859	291
4th mo.	2076	1430	1149	444	2339	945	725	257
5th mo.	1904	1281	1049	439	2135	836	739	251
6th mo.	2757	1900	1350	490	2801	1235	1486	440
7th mo.	2575	1800	1352	470	2598	1184	1392	447
8th mo.	2366	1651	1223	428	2365	1043	1268	403
9th mo.	2135	1455	1009	367	2226	994	1152	345
10th mo.	1858	1287	899	319	1919	896	948	299
11th mo.	1711	1164	854	269	1716	795	961	279
Average for year	2219	1516	1145	421	2390	1012	1041	332
Per Cent for year	68		36		42		32	

Expressed as an average for the year, the four evening high schools compare as follows:

Table XI - Per Cent Attendance is of Enrollment

School	Average End of Month Enrollment (11 months)	Average Evening Attendance (11 months)	Per Cent Attendance per Evening is of Enrollment (11 months)
Commerce	2219	1516	68
Humboldt	2390	1012	42
Galileo	1145	421	36
Polytechnic	1041	332	32
Total----------	6795	3281	
Average -------			48

9. Class Size

Table XII shows the distribution of class size by schools as reported to Deputy Superintendent Mary A. Fitz-Gerald for the week September 23 to 29, 1931. The median class size ranges from 27.2 for Evening High School of Commerce to 18.1 for Polytechnic Evening High. The distribution of classes with less than 20 pupils is as follows:

Commerce Evening	- 31	or	20	per cent
Galileo "	- 23	or	58	" "
Humboldt "	- 30	or	30	" "
Polytechnic "	- 21	or	58	" "

Table XII - Class Size - Evening High Schools - By Schools
(As of Sept. 23-29, 1931)

Class Size	Commerce	Galileo	Humboldt	Polytechnic	Total
50 and over	4		1	1	6
45-49	4	1	3		8
40-44	10	1	1	1	13
35-39	24	2	7		33
30-34	21	5	10	2	38
25-29	24	2	22	8	56
20-24	35	13	25	3	76
15-19	26	20	17	8	71
10-14	5	3	12	7	27
5-9			1	6	7
Total	153	47	99	36	335
Median	27.2	20.2	23.9	18.1	24.1

Table XIII shows the class size by subjects. The groups range in class size from 18.3 for shop classes to 35.0 pupils for physical education classes.

Table XIII - Class Size - Evening High Schools - By Subjects
(As of Sept. 23-29, 1931)

Class Size	Academic	Shop	Commercial	American-ization	Physical Education	Total
50 and over	1		2	1	2	6
45 - 49	1	1	4		2	8
40 - 44	5		4	1	3	13
35 - 39	14	1	17		1	33
30 - 34	6	4	26		2	38
25 - 29	14	8	28	3	3	56
20 - 24	33	15	21	7		76
15 - 19	29	24	15	1	2	71
10 - 14	4	18	3	1	1	27
5 - 9	4	3				7
Total	111	74	120	14	16	335
Median	22.8	18.3	28.7	23.6	35.0	24.1

Table XIV shows the median class size by schools. Commerce Evening has the largest median class size in all subject groups except physical education. Polytechnic has the largest physical education group.

Table XIV - Median Class Size - Evening High Schools - By Schools

School	Academic	Vocational Training	Commercial	American-ization	Physical Education	Total
Commerce	24.70	22.50	31.20	25.00	30.00	27.20
Galileo	18.25	17.00	25.50	22.50	32.50	20.20
Humboldt	23.00	19.40	28.30	-- --	30.00	25.90
Polytechnic	12.50	16.25	26.25	15.00	47.50	18.10
Average	22.80	18.30	28.70	23.60	35,00	24.10

Tables XV, XVI, XVII, and XVIII show the class size by subject in the various evening high schools.

Table XV - Evening High School of Commerce - Class Size by Subjects

Class Size	Academic	Vocational Training	Commercial	American-ization	Physical Education	Total
50 and over	1		1	1	1	4
45 - 49	1		2		1	4
40 - 44	4		3	1	2	10
35 - 39	11		13			24
30 - 34	6		15			21
25 - 29	9	3	9	3		24
20 - 24	18	2	10	5		35
15 - 19	15	2	7		2	26
10 - 14	1	2	1		1	5
5 - 9						
Total	66	9	61	10	7	153
Median	24.7	22.50	31.2	25.0	30.0	27.2

Table XVI - Galileo Evening High School - Class Size by Subjects

Class Size	Academic	Vocational Training	Commercial	American-ization	Physical Education	Total
50 and over						
45 - 49			1			1
40 - 44			1			1
35 - 39			1		1	2
30 - 34			4		1	5
25 - 29			1		1	2
20 - 24	5	1	5	2		13
15 - 19	10	5	5			20
10 - 14		2	1			3
5 - 9						
Total	15	8	19	2	3	47
Median	18.25	17.0	23.5	22.5	32.5	20.2

Table XVII - Humboldt Evening High School - Class Size by Subjects

Class Size	Academic	Vocational Training	Commercial	American-ization	Physical Education	Total
50 and over			1			1
45 - 49		1	1		1	3
40 - 44	1					1
35 - 39	3	1	3			7
30 - 34		3	6		1	10
25 - 29	2	4	14		2	22
20 - 24	10	10	5			25
15 - 19	3	13	1			17
10 - 14	1	10	1			12
5 - 9		1				1
Total	20	43	32	-	4	99
Median	23.0	19.4	28.3	-	30.0	25.9

Table XVIII - Polytechnic Evening High School
Class Size by Subjects

Class Size	Academic	Vocational Training	Commercial	American-ization	Physical Education	Total
50 and over					1	1
45 - 49						
40 - 44					1	1
35 - 39						
30 - 34		1	1			2
25 - 29	3	1	4			8
20 - 24		2	1			3
15 - 19	1	4	2	1		8
10 - 14	2	4		1		7
5 - 9	4	2				6
Total	10	14	8	2	2	36
Median	12.5	16.25	26.25	15.0	47.50	13.1

The classes with conspicuously low enrollments are as follows:

Commerce ----- 5 classes with fewer than 15 students
Galileo ------ 3 " " " " 15 "
Humboldt -----13 " " " " 15 "
Polytechnic --13 " " " " 15 "

10. Extra-Curricular Activities

Tables XIX and XX which follow show the extent to which extra curricular activities are carried on in the evening high schools.

Commerce Evening High School has rather an extensive program of activities, each one being under the direction of a member of the faculty. The student body also functions extensively in promoting extra curricular activities. Students of the Evening High School of Commerce are privileged to participate in the following activities:

Assemblies
Athletic Contests
Debates
Dances
Dramatics
Excursions
Music
Parties
Programs
Publications

While approximately the same activities are carried on at the Humboldt Evening High School, the student body is not so active. The other activities are not definitely organized but left more or less to the discretion of the various class teachers.

Galileo and Polytechnic Evening High Schools have no extra curricular activities.

Table XIX -- Extra-Curricular Activities
High School of Commerce

Activity	Hour Schedule	Length of Session	Times per Term
Assemblies	7:45 p.m.	15-45 min.	5 or 6
Athletic Contests	8:00 p.m.	75 min.	20 (Phys.Ed only)
Debates	8:00 p.m.	75 min.	2
Dramatics	8:00 p.m.	90 min.	2 or 3
Dances	9:15 p.m.	120-180 min.	4
Excursions	9:15 p.m.	All day Sunday	2 or 3
Music	8:00 p.m.	60-90 min.	1
Parties	8:00 p.m.	Sat. p.m. 240 min.	2*
Programs	8:00 p.m.	60-90 min.	7
Publications	--	-- --	5

*In addition to the above, annual dinners are held by the public speaking and lip reading classes.

Table XX - Extra-Curricular Activities
Humboldt Evening High School

Activity	Hour Schedule	Length of Session	Times per term
Assemblies	8:30 p.m.	.45 min.	4
Athletic Contests	8:00 p.m.	60 min.	12 (Phys.Ed. only)
Debates	8:10 p.m.	60 min.	5
Dramatics	8:10 p.m.	90 min.	2
Dances	9:00 p.m.	180 min.	1
Excursions	7:00 p.m.	150 min.	1 (Cov't.cl only)
Music	--	--	-
Parties	8:00 p.m.	240 min.	Seniors only 5
Programs	8:30 p.m.	45 min	4
Publications	--	--	4 or 5

Tables XXI and XXII which follow list the expenditures of students for school purposes. With the exception of the first two in the case of Evening High School of Commerce and the first in the case of Humboldt Evening School, these are to meet class needs only. Most of these are not compulsory fees. For the greater part, they are for books or materials used in the classes. Under each school, the data are recorded in the following order:

1. Amount paid per student
2. Material or service received
3. Compulsory or not compulsory
4. Number paying fee

An inspection indicates that the student expenses in the four evening high schools have been kept at the lowest possible amount per pupil.

Table XXI - Dues, Fees, and Collections

Evening High School of Commerce and Galileo Evening High School

Purpose of Fee	Eve. High School of Commerce				Galileo Evening High			
	Amount Paid	Material or Service Rec'd.	Compul-sory	No. Paid	Amt. Paid	Material or Service Recd.	Compul-sory	No. Paid
Student Body	1.00	Activities	No	-	-	-	-	-
Entertainment	.25	Scholarship Show	No	-	-	-	-	-
Auto Shop	--	-	-	-	1.00	Material	No	20
Bookkeeping	.90	Forms	Yes	41	-	-	-	-
Citizenship	.50	Text book	No	87	-	-	-	-
Civ. Service	.75	Syllabus	Yes	54	-	-	-	-
Dressmaking	.25	Materials	No	24	.30	Material	No	43
Lip Reading	.60	Dinner	No	80	-	-	-	-
Machine Shop	--	-	-	-	1.00	Material	No	20
Millinery	.25	Material	No	40	-	-	-	-
Phys. Ed.	--	-	-	-	1.00	Music	No	75
Physics	.25	Manual	No	40	-	-	-	-
Woodwork	--	-	-	-	1.00	Material	Yes	20
Biology	.50	Material	No	45	-	-	-	-

Table XXII - Dues, Fees, and Collections

Humboldt and Polytechnic Evening High Schools

	Humboldt Evening High				Polytechnic Evening High			
	Amount Paid	Material or Service Recd.	Compul-sory	No. Paid	Amount Paid	Material or Service Recd.	Compul-sory	No. Paid
Student Body	.50	Activities	No	-	-	-	-	-
Art Metal	.50	Material	No	40	-	-	-	-
Auto Shop	1.00	Material	No	22	-	-	-	-
Aviation	--	-	-	--	1.00	Material	No	30
Bookkeeping	2.00	Forms	Yes	86	-	-	-	-
Chemistry	1.00	Manual	Yes	--	-	-	-	-
Chem.for Nurses	1.50	Text book	Yes	38	-	-	-	-
Civ.Service	.50	Syllabus	Yes	191	-	-	-	-
Dressmaking	.50	Material	Yes	97	-	-	-	-
Elec. Shop	1.00	Material	No	45	-	-	-	-
Machine Shop	1.00	Material	No	29	1.00	Material	No	24
Millinery	1.50	Material	No	10	.50	Material	No	20
Needle-Leather	--	-	-	--	.50	Material	No	73
Oxy.Welding	1.00	Material	No	25	--	-	-	-
Phys. Ed.	--	-	-	-	.50	Music	No	150
Woodwork	1.00	Material	No	30	--	-	-	-
Metallurgy	2.00	Material	Yes	70	--	-	-	-

PART II - EVENING ELEMENTARY SCHOOLS

1. Credentials

Part II of this report is concerned with a report of evening elementary schools. Table XXIII is concerned with the type of credentials held by the evening elementary teachers. Seventy five per cent of the evening elementary teachers have general or special secondary certificates.

TABLE XXIII

Credentials - Evening Elementary Schools

School	Gen.Sec.		Spec. Sec.		Jr. High		Sp.Jr.High		Gen.Elem.		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
Francisco			7	77					2	22	9
Hamilton			8	80					2	20	10
Horace Mann	4	30	7	53			1	8	1	8	13
Lincoln	1		3		1				3		8
Totals	5		35		1		1		8		40

2. Salaries

Table XXIV shows the distribution of salaries of evening school teachers. The majority (24) of the evening elementary teachers receive $1200.00.

TABLE XXIV

Salaries - Evening Elementary Schools

Salary	Francisco	Hamilton	Horace Mann	Lincoln	Total
$ 1500.	1	1	1		3
1406.40				1	1
1200.	7	7	7	3	24
1020.				1	1
960		1	2		3
750	1				1
720		1	1		2
480			1	1	2
320			1		1
2.90 per day				1	1
Not stated				1	1
Totals	9	10	13	8	40

3. Date of Assignment

Table XXV gives the distribution of evening elementary teachers according to the date of assignment. Eight teachers were reported as having been assigned before 1910, eleven teachers between 1910 and 1920, and nineteen teachers between 1920 and 1930.

TABLE XXV

Date of Assignment

Year	Evening Elementary Schools					Year	Evening Elementary Schools				
	Lincoln	Hor. Mann	Francisco	Hamilton	Totals		Lincoln	Hor. Mann	Francisco	Hamilton	Totals
1931						1915					
1930	1				1	1914				1	1
1929						1913					
1928				1	1	1912					
1927		2			2	1911	3	1		1	5
1926	1	1	1		3	1910					
1925	1	2		3	6	1909				1	1
1924			1	1	2	1908					
1923	1				1	1904	1				1
1922						1903					
1921	1	1	1		3	1902					
1920			1	1	2	1898		1			1
1919	1				1	1897			2	1	3
1918		1			1	1896			1		1
1917						1892		2			2
1916						1891					
Totals	6	7	4	6	23	Totals	4	4	3	4	15
GRAND TOTALS - - - - - - - - - - - - - - - - - -							10	11	7	10	38

4. Daytime Occupations

Daytime occupations of the evening elementary teachers are listed in Table XXVI. Twenty of these teachers are also teachers by day in the San Francisco Public Schools or in other day schools.

TABLE XXVI

Daytime Occupations

Occupation	Evening Elementary Schools				
	Francisco	Hamilton	Hor. Mann	Lincoln	Total
Dental Student				1	1
Engineer		1			1
Lawyer				1	1
Millinery School			1		1
Teachers - S. F. Public Schools	2	5	6	5	18
Teacher- Substitute			1		1
Teacher - Private				2	2
Unemployed	5	4	3	1	13
TOTALS	7	10	11	10	38

5. Number of Nights Taught

The majority (31) of the evening elementary teachers serve five nights per week. Three teachers serve three nights and four teachers serve four nights per week. These facts are shown in Table XXVII.

TABLE XXVII

Number of Nights Taught

School	Number of Nights					Total
	1	2	3	4	5	
Lincoln				1	9	10
Horace Mann			1	2	8	11
Francisco			1		6	7
Hamilton			1	1	8	10
Totals	-	-	3	4	31	38

6. Distribution of Evening Elementary Pupils

Evening elementary pupils are distributed according to the following table.

Table XXVIII shows the number of evening elementary students living in various sections of the city. It should be read as follows:

Francisco has 13 students living south of Market, 160 living in North Beach, and 6 living in the Marina. It also may be read: Of 76 students living in the Richmond district, 63 attend Hamilton, 1 attends Horace Mann, and 12 attend Lincoln.

TABLE XXVIII

Distribution of Evening Elementary Students

Area	Francisco	Hamilton	Horace Mann	Lincoln	Total
Richmond	0	63	1	12	76
Sunset	0	1	5	12	18
Balboa	0	0	83	10	93
South of Market	13	8	283	51	355
North Beach	160	5	2	7	174
Marina	5	7	1	6	19
North of Market	1	211	7	124	343
TOTAL	179	295	382	222	1078

7. Growth of Evening Elementary Schools

Table XXIX following shows the average number belonging in the several elementary evening schools over a ten-year span. The following facts are shown:

1. Evening elementary school "Average number belonging" reached its peak load in 1925. Since then, there has been a gradual decrease from 730 to 515.

2. Francisco evening school enrollment is less than half of what it was in 1925.

3. Horace Mann evening school shows an increased enrollment over that of 1925.

TABLE XXIX

Growth of Evening Elementary Schools - Average Number Belonging*

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Francisco	151.	150.	178.	185.	164.	155.	142.	108.	116.	81.
Hamilton	113.	123.	195.	210.	195.	179.	155.	166.	162.	119.
Horace Mann	118.	103.	149.	168.	167.	168.	171.	163.	199.	188.
Lincoln	88.	93.	145.	167.	131.	113.	103.	92.	123.	127.
Totals	470.	469.	667.	730.	657.	615.	571.	529.	600.	515.

*Whole numbers used only.

Table XXIX-a shows the average daily attendance of the evening elementary schools. The following facts are taken from the table.

1. The average daily attendance of elementary evening schools has decreased from the peak of 598 in 1925 to 359 in 1931.

2. The average daily attendance of Francisco and Hamilton evening schools is less than half of that of 1925.

3. The average daily attendance of Horace Mann is about the same as that of 1925.

TABLE XXIX-a

Growth of Evening Elementary Schools - Average Daily Attendance

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Francisco	130.	130.	154.	160.	138.	132.	117.	88.	81.	88.
Hamilton	96.	105.	162.	171.	157.	141.	121.	127.	122.	87.
Horace Mann	93.	80.	117.	128.	127.	129.	129.	123.	128.	125.
Lincoln	73.	77.	122.	139.	106.	90.	81.	73.	78.	88.
Totals	392.	390.	555.	598.	528.	492.	448.	411.	409.	359.

8. Per Cent of Attendance

Table XXIX-b shows the per cent of attendance of the evening elementary schools. The following facts are shown:

1. The per cent of attendance of the evening elementary schools has decreased from 82 per cent in 1925 to 70 per cent in 1931.

2. The per cent of attendance of Horace Mann has been consistently less than that of the other evening elementary schools during the entire 10-year period.

TABLE XXIX-b

Growth of Evening Elementary Schools - Percentage of Attendance

School	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Francisco	86.	87.	87.	86.	84.	85.	81.	80.	70.	73.
Hamilton	85.	84.	83.	82.	80.	78.	77.	76.	75.	73.
Horace Mann	79.	80.	79.	76.	75.	77.	75.	75.	64.	66.
Lincoln	83.	83.	84.	83.	80.	69.	79.	78.	65.	69.
Averages	83.	84.	83.	82.	80.	77.	78.	78.	68.	70.

9. Average Evening Attendance

TABLE XXX

Average Evening Attendance Compared with End of Month Enrollment

Months	Francisco		Hamilton		Horace Mann		Lincoln	
	End	Ave.	End	Ave.	End	Ave.	End	Ave.
1st month	165	99	252	137	687	225	191	102
2nd month	189	110	278	160	671	247	207	112
3rd month	168	104	267	163	690	234	210	114
4th month	170	114-	256	154	617	232	197	121
5th month	162	110	247	164	582	220	216	166
6th month	185	111	292	182	607	230	326	204
7th month	177	113	288	174	635	234	304	178
8th month	177	111	249	160	594	226	332	185
9th month	162	106	247	142	596	212	320	211
10th month	132	82	232	140	532	183	261	178
11th month	152	102	203	129	480	169	233	160
Ave.for year	167	106	256	155	608	219	254	157
Percent for yr.	63		61		36.		62	

Table XXX above shows the average number of students attending each evening elementary school per evening by the month throughout the year as compared with the end-of-the-month enrollment for each school by the month throughout the year. The evening attendance was obtained in each case by multiplying the average daily attendance for each month by 16/9ths. The evening school session is 2¼ hours in length, or 9/16ths of the legal school day of four hours as fixed by state law. The table also shows for each evening school the above comparison expressed as an average for the eleven months of the school year and as a per cent.

Table XXXI shows the range of attendance was from 36 per cent at Horace Mann Evening to 63 per cent at Francisco Evening.

TABLE XXXI

Percent of Attendance Based on End of Month Enrollment

School	Average End of Month Enrollment 11 months	Average Evening Attendance - 11 months	Percent Attendance per evening is of enrollment - 11 months
Francisco	167	106	63
Lincoln	254	157	62
Hamilton	256	155	61
Horace Mann	608	219	36
Totals	1285	637	50

10. Class Size

Tables XXXII and XXXIII show the distribution of class size by schools and by groups of subjects. The range of class size is from 17.5 students at Francisco to 22.5 students at Hamilton, and from 17.5 in Home Economics to 21.8 students in Americanization.

TABLE XXXII

Class Size by Schools - Evening Elementary Schools

Class Size	Francisco	Hamilton	Horace Mann	Lincoln	Total
50 and over					
45 to 49					
40 to 44			1		1
35 to 39			1		1
30 to 34	1	1			2
25 to 29		2			2
20 to 24	1	3	4	5	13
15 to 19	3	2	3	1	9
10 to 14	2		1		3
5 to 9		1	1	3	5
0 to 4					
Totals	7	9	11	9	36
Medians	17.50	22.5	20.6	20.5	20.4

TABLE XXXIII

Class Size by Subjects

Class Size	Americanization	Academic	Home Economics	Total
50 and over				
45 to 49				
40 to 44	1			1
35 to 39	1			1
30 to 34	2			2
25 to 29	2			2
20 to 24	7	5	1	13
15 to 19	5	2	2	9
10 to 14	1	2		3
5 to 9	2	2	1	5
0 to 4				
Totals	21	11	4	36
Medians	21.8	18.7	17.5	20.4

The following table shows the summary of the median classes by school and subject.

TABLE XXXIV

Median Class Size

School	Americanization	Academic	Home Economics	Total
Francisco	18.75	15.00	----	17.50
Hamilton	26.25	21.25	9.00	22.50
Horace Mann	21.25	10.00	20.00	20.60
Lincoln	21.25	20.80	16.50	20.50
Total	21.80	18.70	17.50	20.40

Tables XXXV, XXXVI, XXXVII, and XXXVIII show the distribution of classes for each of the individual elementary schools. The small classes (below 15) are as follows:

Francisco ----- 2 with less than 15 students
Hamilton ------ 3 " " " 15 "
Horace Mann --- 2 " " " 15 "
Lincoln ------- 3 " " " 15 "

TABLE XXXV

Class Size by Subjects

Francisco Evening Elementary School - Fall Term 1931-32

Class Size	Americanization	Academic	Total
50 and over			
45 to 49			
40 to 44			
35 to 39			
30 to 34	1		1
25 to 29			
20 to 24	1		1
15 to 19	2	1	3
10 to 14	1	1	2
5 to 9			
0 to 4			
Totals	5	2	7
Medians	18.75	15.00	17.50

TABLE XXXVI

Class Size by Subjects

Hamilton Evening Elementary School

Class Size	Americanization	Academic	Home Economics	Total
50 and over				
45 to 49				
40 to 44				
35 to 39				
30 to 34	1			1
25 to 29	2			2
20 to 24	1	2		3
15 to 19	1	1		2
10 to 14				
5 to 9			1	1
0 to 4				
Totals	5	3	1	9
Medians	26.25	21.25	9.00	22.5

TABLE XXXVII

Horace Mann Evening Elementary School

Class Size by Subject

Class Size	Americanization	Academic	Household Arts	Total
50 and over				
45 to 49				
40 to 44	1			1
35 to 39	1			1
30 to 34				
25 to 29				
20 to 24	3		1	4
15 to 19	2		1	3
10 to 14		1		1
5 to 9	1			1
0 to 4				
Total	8	1	2	11
Median	21.25	10.0	20.0	20.6

TABLE XXXVIII

Lincoln Evening Elementary School

Class Size by Subjects

Class Size	Americanization	Academic	Household Arts	Total
50 and over				
45 to 49				
40 to 44				
35 to 39				
30 to 34				
25 to 29				
20 to 24	2	3		5
15 to 19			1	1
10 to 14				
5 to 9	1	2		3
0 to 4				
Totals	3	5	1	9
Medians	21.25	20.8	16.5	20.5

11. Extra Curricular Activities

Table XXXIX which follows indicates that very few extra curricular activities are carried on in the evening elementary schools.

Lincoln Evening School leads in activities, offering an assembly each week, Saturday evening dances, and Sunday excursions. Dramatics and movies are also features of the Lincoln evening school program.

Francisco Evening Elementary has an assembly each month, some dramatics, and a monthly excursion.

Horace Mann Evening Elementary limits its activities to two assemblies per term, one musical program and one party.

Hamilton offers debating as the only extra curricular activity.

12. Fees, Dues, Collections

The expenditures of evening elementary students for school purposes are almost negligible.

Francisco requires no fees, dues, or collections.

Hamilton, Horace Mann, and Lincoln request fees in dressmaking and millinery classes, not exceeding 50 cents per pupil.

Horace Mann has an entertainment fee of 25 cents which is to defray the expenses of the annual party. This, however, is not compulsory.

EXTRA CURRICULAR ACTIVITIES IN EVENING ELEMENTARY SCHOOLS

ACTIVITY	FRANCISCO			HAMILTON			HORACE MANN			LINCOLN		
	Hour Schedule	Length of Sessn	Times per Term	Hour Schedule	Length of Sessn	Times per Term	Hour Schedule	Length of Sessn	Times per Term	Hour Schedule	Length of Sessn	Times per Term
Assemblies	8:00 to 9:00	60 min.	4	-	-	-	8:30 to 9:15	45 min.	2	8:45 to 9:15	30 min.	20
Debates	-	-	-	8:30 to 9:15	45 min.	20	-	-	-	-	-	-
Dramatics	7:30 to 8:00	30 min.	-	-	-	-	-	-	-	8:45 to 9:15	30 min.	20
Dances	-	-	2	-	-	-	-	-	-	Sat. Eve. 3 hrs.	180 min.	20
Excursions	-	30 min.	4	-	-	-	-	-	-	Sunday	All day	20
Music	-	-	-	-	-	-	8:30 to 9:15	45 min.	1	8:45 to 9:15	30 min.	
Parties	-	-	-	-	-	-	8:00 to 11:00	180 min.	1	Sat-urday Eve.	120 min.	1
Movies	-	-	-	-	-	-	-	-	-	8:45 to 9:15	30 min.	20

SUMMARY - EVENING SCHOOL SURVEY

I. Evening High Schools

1. Forty-eight per cent of the evening high school teachers had general secondary certificates.

2. Thirty-one per cent of the evening high school teachers received $1355; ten per cent received $1084.

3. Two evening high school teachers were assigned over forty years ago; 10 were assigned between 1898 and 1910; 24 were assigned between 1910 and 1920; and 129 were assigned between 1920 and 1930.

4. Of 194 evening high teachers, 127 were teachers by day in private or public schools in San Francisco or bay cities.

5. Twenty-one of the 38 Polytechnic teachers served 2 nights per week; 53 of 65 Evening High School of Commerce teachers taught 5 nights per week; 31 of the 66 Humboldt evening high teachers taught 5 nights per week. There is no uniformity in regard to the number of evening sessions per week or the number of periods per evening.

6. There has been a gradual growth of evening schools but a gradual decrease in the per cent of attendance.

7. Class size below 20 ranges from 58 per cent of the total number of classes at Galileo and Polytechnic Evening High Schools to 30 per cent at Humboldt and 20 per cent at Evening High School of Commerce.

8. The median for smaller classes by departments was 18.3 for shop classes.

9. Galileo and Polytechnic Evening High Schools are primarily neighborhood schools. Commerce and Humboldt are essentially city-wide schools.

II. Evening Elementary Schools

10. Seventy-five per cent of the evening elementary pupils have general or special secondary certificates.

11. The majority of the evening elementary teachers receive $1200.00.

12. Francisco and Hamilton evening schools are essentially neighborhood schools. However, there is considerable overlapping of the elementary school districts. Hamilton and Lincoln appear to serve somewhat the same territory.

13. The per cent of attendance is low in evening elementary schools.

14. The median class size ranges from 17.5 at Francisco Evening Elementary school to 22.5 at Hamilton.

15. Academic class size at Horace Mann (10) and Francisco (15) is very low.

16. Classes meet 3, 4, or 5 nights per week.

RECOMMENDATIONS

1. It is recommended that Balboa be organized as an evening elementary and high school. There are 93 evening elementary students and 412 evening high school students at present in the Balboa district.

2. It is recommended that Hamilton and Lincoln evening schools be combined, as they serve the same area.

3. It is recommended that Francisco evening school be transferred to the Galileo Evening High School to become the same type of organization as Balboa evening school.

4. It is recommended that the rules of the Board be enforced in regard to size of class and minimum attendance.

5. It is recommended that a teacher quota per school be established.

6. It is recommended that this report be distributed to the evening school principals and that a meeting of the Superintendent, Mr. Cloud, and the principals be called to discuss the report.

Bulletin #46

San Francisco (California) Board of Education. [illegible]

SAN FRANCISCO PUBLIC SCHOOLS
DEPARTMENT OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

CLASS SIZE
SAN FRANCISCO JUNIOR HIGH SCHOOLS

Fall Term 1932-1933

Bulletin No. 46

October 1932

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BOARD OF EDUCATION
BUREAU OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

October 10, 1932.

Class Size
San Francisco Junior High Schools
Fall Term 1932

In order to comply with the demand for retrenchment in the Junior High Schools, a pupil-teacher ratio plan was submitted by Deputy Superintendent Nolan to the Board of Education and adopted by them on June 7, 1932.

The plan submitted and adopted was as follows:

"Assignment of Credentialed Personnel to Junior High Schools:

The recommendations below, if adopted, will lead to a reduction of teacher personnel estimated at fifteen teachers, as of January, 1933 enrollment. Averaging the annual salary of junior high school teachers at $2450, the above reduction would approximate a saving of $35,000.

1. The basic enrollment figure to be used for determining the number of credentialed personnel for any term shall be the end of the month enrollment of the first month of the preceding term. In the event of either exceptional increases or decreases at the beginning of a term, adjustments shall then be made according to the ration herein below established.

2. The ratio of pupils to teachers for the school year 1932-33 shall be as follows, with the proviso that it be reduced to the ratio in effect during the year 1931-32 as soon as the present emergency ceases.
In schools with an enrollment of 1500 pupils and above, the maximum number of teachers shall be determined by dividing the total enrollment by 32, plus an allowance of 3 in administration and 1 in library service.

In schools with an enrollment of 1100 pupils to 1499 pupils, the maximum number of teachers shall be determined by dividing the total enrollment by 31, plus an allowance of 3 in administration and 1 in library service.

In schools with an enrollment of 500 pupils to 1099 pupils, the maximum number of teachers shall be determined by dividing the total enrollment by 27, plus an allowance of 2 in administration and 1 in library service.

In schools with an enrollment of 499 pupils and below the maximum number of teachers shall be determined by dividing the total enrollment by 26, plus an allowance of a maximum of 2 in administration and 1 in library service.

3. It is recommended that the principals be authorized to operate these ratios as major program restrictions without other or further program restrictions.

4. The rule for determining the number of credentialed personnel shall be as follows:

The number of teachers equals the enrollment divided by the ratio. If the quotient is fractional use the nearest whole number.

5. All teachers shall have assigned duties for six periods per day. The minimum number of classes shall be five per day."

At the beginning of the fall term, the assignment of teachers to junior high schools was made as near as possible according to the pupil-teacher ratio plan adopted by the Board of Education. The following table shows the actual condition of pupil-teacher ratio soon after the opening of the fall term.

TABLE I
PUPIL-TEACHER RATIO IN JUNIOR HIGH SCHOOLS

SCHOOL	ENROLLMENT	NO. OF TEACHERS	PUPIL PER TEACHER	ADOPTED RATIO	ADMINISTRATIVE OFFICERS
Aptos	1370	42	32.6	31	4
Dan Webster	454	17	26.7	26	2
Everett	1796	55	32.6	32	4
Francisco	1238	40	30.7	31	4
Horace Mann	1336	39	34.2	31	4
James Lick	499	18	27.7	26	3
John Swett	611	22	27.7	27	3
Portola	725	27	26.8	27	3
Presidio	1542	49	31.5	32	4
Roosevelt	1200	39	30.8	31	4

Table II which follows shows the average daily attendance in junior high school classes, number of full time teachers(not including principals) and pupils per teacher in certain selected California cities, which have in general an organization similar to that of San Francisco.

TABLE II

CITY	A.D.A.	FULL-TIME TEACHERS	PUPILS PER TEACHER BASED ON A.D.A.
Fresno	1176	48	24.5
San Diego	4468	182	24.5
Oakland	7485	310	24.1
San Francisco	7900	331	23.9
Los Angeles	31399	1409	22.3
Berkeley	3016	136	21.9
Santa Barbara	1441	68	21.2
Sacramento	1408	67	21.0
Long Beach	4462	215	20.8
Pasadena	1408	249	18.3
San Jose	2232	122	18.3

The last column of this table shows the position of San Francisco among the other selected California cities in regard to the matter of pupil teacher ratio in junior high schools for the school year 1930-31. The records show that the pupil teacher ratio in San Francisco junior high schools has been increased each year since 1930-31. By using data as nearly comparable as possible for the school year 1931-32, and for the fall term 1932-33, the pupil teacher ratios are as follows:

YEAR	A.D.A.	FULL-TIME TEACHERS	PUPIL TEACHER RATIO
1930-31	7900	331	24.1
1931-32	9736	390	24.9
1932-33 (as of Aug.1932)	10330	376	27.5

By way of explanation, it should be pointed out that the number of full time teachers includes all full time instructors and supervisors excluding only the principals.

According to the junior high school enrollments for the current term and the pupil teacher ratio adopted by the Board of Education, the average pupil teacher ratio for all junior high schools is 30.6. The ratio 27.5 listed in the tabulation above may be explained by the fact that the enrollment figure used is average daily attendance, (95 or 96 per cent of enrollment) and the number representing number of teachers included all credentialed personnel except the principals. If the first month enrollment, 10761, is divided by the number of full time teachers, 345 (administrators and librarians excluded) the resulting quotient is 30.9 which is slightly above the average pupil teacher ratio of 30.6 which was adopted by the Board of Education.

It was assumed that the adoption of the new pupil-teacher ratios, and the consequent reduction in the number of teachers would increase the size of classes. This, however, is not true, for the median class size is slightly lower, and a more even distribution of class size is evident.

Also in dealing with class size data of junior high schools, and in making comparisons relating to class size, it is necessary to keep in mind the following points:

1. Small junior high schools providing the approved junior high school program find it very difficult to maintain large classes.

2. If the policy of offering certain free elections is adhered to, small classes may be necessary, particularly in the smaller schools.

3. A few teachers teach under special certificates. This sometimes results in small classes or free periods for such teachers.

4. Separation of boys and girls in required pre-vocational courses, creates a situation under which small classes are at times unavoidable. This is very true in small schools.

The data which formed the basis of this study were derived from the teacher programs submitted by the teachers of the junior high schools, during the first month of the spring term.

Classes in assembly, counseling, library, clubs and study periods were not considered. No distinction was made between classes meeting two or four times per week. An effort was made to account for each and every class, without regard to the number of meetings per week. The fact that many classes in music and physical education meet but twice per week, and at the same time are among the largest classes in the school, raises the median to a point somewhat higher than it otherwise would be. In other words classes meeting twice per week are given a double weight, and being at the upper end of the scale, influence the median in that direction.

TABLE III

NUMBER OF CLASSES AND CLASS SIZE BY DEPARTMENTS

Fall Term 1932

CLASS SIZE	ENG-lish	Mathematics	Social Science	Language	General Science	Industrial Arts	Home Economics	Art	Commercial	Music	Physical Education	Total
50 or over	2	2	1		1				2	47	74	129
45-49	38	29	47	14	23				4	23	32	210
40-44	117	92	104	40	63			2	27	32	46	523
35-39	78	50	71	25	46	2	1	5	22	26	36	362
30-34	39	28	33	35	26	50	11	21	19	17	21	300
25-29	23	11	10	28	4	88	49	38	17	13	17	298
20-24	22	11	7	32	7	129	74	40	16	24	26	388
15-19	2	2	1	3		30	23	9	6	10	6	92
10-14		1	1		1	6	11	1	3	4	2	30
5-9	2		1			2	2	1	1	2	1	12
0-4												
TOTAL	323	226	276	177	171	307	171	117	117	198	261	2344
MEDIAN	39.7	40.5	40.7	33.6	40.1	24.5	23.3	26.0	34.1	40.5	42.3	35.7

On the last line of the table the median class size is shown for each department and a total for all departments, ranging from 43.2 in physical education to 23.3 in home economics. The various departments arranged in rank order of their median class size are as follows. Opposite each is the corresponding median class size for the spring term, 1932.

Department	Fall Term 1932 Median	Spring Term 1932 Median
Physical Education	42.3	41.8
Social Science	40.7	39.5
Mathematics	40.5	39.1
Music	40.5	41.6
General Science	40.1	39.8
English	39.7	39.0
Commercial	34.1	36.2
Language	33.6	33.5
Art	26.0	24.6
Industrial Arts	24.5	23.5
Home Economics	23.3	22.4
Median for all classes	35.7	36.1

Table III also shows that there are 134 classes with less than 20 pupils, and 388 classes having from 20 to 24 pupils, as against 157 classes with less than 20 pupils, and 344 classes having from 20 to 24 pupils in the spring term 1932.

The fact that there are more classes with less than 30 pupils in the fall term 1932 than in the spring term 1932, explains partially why the median class size for all classes is slightly lower for the fall term. Also we find 6 more classes listed for the fall term than were listed for the spring term. Furthermore the count of teachers is less by 15 in the fall term than in the spring term. These facts indicate that approximately 96 periods which were free periods last term are now being listed as teaching periods.

The fact that the median has not been raised to a higher point than last term is, no doubt, an indication of good management rather than of poor management, for it is doubtful whether the median class size should rise much above 35 when one considers that in the tabulation are schools with less than 500 enrollment, and that the junior high school program is adhered to, including elective, vocational and prescribed work.

Table IV shows the number of small classes by departments and also shows a comparison with small classes as they existed in the preceding term.

TABLE IV

SMALL CLASSES BY DEPARTMENTS

DEPARTMENT	NUMBER OF CLASSES			
	With less than 20 pupils 1932		Having from 20 to 24 pupils 1932	
	Spring Term	Fall Term	Spring Term	Fall Term
English	4	4	16	22
Mathematics	3	3	9	11
Social Science	1	3	5	7
Language	7	3	19	32
General Science	1	1	4	7
Total	16	14	53	79
Industrial Arts	60	38	129	129
Home Economics	42	36	74	74
Art	18	11	40	40
Total	120	85	243	243
Commercial	6	10	16	16
Music	10	16	13	24
	16	26	29	40
Physical Education	5	9	19	26
Total	5	9	19	26
Grand Total	157	134	344	386

Inspection of the data shown in this table reveals that in the spring term 1932 there were 401 classes with less than 25 pupils as against 598 in the fall term, 1932.

Table V shows the distribution of number of classes and class size by schools. The size of the school has an important bearing upon the data of this table, if they are to be used in making comparisons.

TABLE V

NUMBER OF CLASSES AND CLASS SIZE BY SCHOOLS
Fall Term 1932

CLASS SIZE	Aptos	Dan. Webster	Everett	Francisco	Horace Mann	Jas. Lick	John Swett	Portola	Presidio	Roosevelt	Total
50 or over	10		34	15	25	9	2	7	9	18	129
45-49	36	3	19	15	30	8	8	11	72	8	210
40-44	94	5	90	55	69	18	24	29	81	58	523
35-39	37	36	61	51	33	17	11	20	37	59	362
30-34	37	29	63	36	12	10	33	16	22	42	300
25-29	32	12	57	37	32	12	28	19	32	37	298
20-24	29	16	43	54	60	27	27	44	55	33	388
15-19	12	6	6	4	13	13	9	15	9	5	92
10-14				3	1	1	3	15	5	2	30
5-9				1		3	4	3	1		12
0-4											
TOTAL	287	107	373	271	275	118	149	179	323	262	2344
MEDIAN	39.5	31.6	36.4	35.0	37.9	31.5	30.5	28.3	40.0	36.0	35.7

On the last line of the table the median class size is shown for each department and a total for all departments, ranging from 43.2 in physical education to 33.3 in home economics. The various departments arranged in rank order of their median class size are as follows. Opposite each is the corresponding median class size for the spring term, 1932.

SCHOOLS	MEDIAN CLASS SIZE		ADOPTED PUPIL-TEACHER RATIO
	Fall Term 1932	Spring Term 1932	
Presidio	40.0	39.9	32
Aptos	39.5	39.7	31
Horace Mann	37.9	37.9	31
Everett	36.4	35.8	32
Roosevelt	36.0	36.3	31
Median	35.7	36.1	
Francisco	35.0	37.4	31
Dan. Webster	31.6	34.5	26
James Lick	31.5	28.1	26
John Swett	30.5	31.6	27
Portola	28.3	30.1	27

Table VI shows the distribution of the small classes by schools.

TABLE VI
SMALL CLASSES BY SCHOOLS

SCHOOL	NUMBER OF CLASSES					
	With Less Than 20 pupils 1932		Having from 20 to 24 pupils 1932		With Less Than 25 pupils	
	Fall	Spring	Fall	Spring	Fall	Spring
Aptos	12	19	29	38	41	57
Dan. Webster	6	10	16	20	22	30
Everett	6	5	43	46	49	51
Francisco	8	15	54	19	62	34
Horace Mann	14	11	60	54	74	65
James Lick	16	21	27	25	43	46
John Swett	17	20	27	21	44	41
Portola	33	27	44	44	77	71
Presidio	15	23	55	46	70	69
Roosevelt	7	6	33	31	40	37
TOTAL	134	157	388	344	522	501

It should be noted that there are 23 fewer classes with less than 20 pupils than there were in the spring term. However there were 44 more classes with between 20 and 25 pupils in the fall term than in the spring term, and combining all classes with less than 25 pupils, we find 21 more in the fall than in the spring term.

Table VII gives the median class size of all schools by departments.

TABLE VII
MEDIAN CLASS SIZE BY SCHOOLS

DEPARTMENT	APPROVED PUPIL-TEACHER RATIO										TOTAL
	Ratio 32		Ratio 31				Ratio 27		Ratio 26		
	Median Class Size										
	Everett	Presidio	Aptos	Francisco	H. Mann	Roosevelt	John Swett	Portola	Dan. Webster	Jas. Lick	
English	39.9	43.0	41.6	38.0	41.1	38.5	32.9	38.7	34.5	36.6	39.7
General Science	40.6	42.7	42.0	42.2	40.2	37.3	32.0	37.5	36.0	35.0	40.1
Language	29.5	36.8	34.5	33.0	32.5	37.5	37.5	27.5	31.9	40.0	33.6
Mathematics	38.2	45.5	42.2	37.8	41.3	38.9	33.7	41.1	37.5	39.4	40.5
Social Science	40.6	44.7	42.0	38.2	42.7	38.9	34.5	38.7	37.0	39.0	40.7
Commercial	35.6	35.0	40.0	36.2	27.5	34.1	35.8	32.5	30.0	33.7	34.1
Art	27.8	23.2	27.9	27.5	24.5	27.5	28.1	22.0	28.7	20.0	26.0
Home Economics	26.6	21.7	26.1	24.4	23.7	25.0	23.1	18.3	20.8	19.0	23.3
Industrial Art	29.8	25.0	25.9	25.5	22.5	25.0	21.9	22.9	23.9	22.5	24.5
Music	43.7	43.6	42.9	36.5	40.0	38.5	29.1	27.5	36.9	*50.0	40.5
Physical Education	*50.3	40.0	41.8	42.9	49.0	39.0	35.0	42.5	36.2	33.7	42.3
TOTAL	36.4	40.0	39.5	35.0	37.9	36.0	30.5	28.3	31.6	31.5	35.7

*Medians over 50 are not exact, because all classes over 50 are in a single category.

The median class size

1. In English is 39.7 ranging from 43.0 at Presidio to 32.9 at John Swett.

2. In general science is 40.1 ranging from 42.7 at Presidio to 32.0 at John Swett.

3. In language is 33.6 ranging from 40.0 at James Lick to 27.5 at Portola.

TABLE IX
PERCENTAGE OF CLASSES IN EACH CATEGORY

SCHOOL	SIZE OF CLASS					
	35 or over	30 to 34	25 to 29	20 to 24	Less than 20	TOTAL
Aptos Spring	62.9	9.1	7.3	13.8	6.9	100.0
Fall	61.6	12.9	11.2	10.1	4.2	100.0
Dan.Webster						
Spring	48.7	15.3	9.0	18.0	9.0	100.0
Fall	41.1	27.1	11.2	15.0	5.6	100.0
Everett						
Spring	52.7	15.6	18.1	12.3	1.3	100.0
Fall	54.7	16.9	15.3	11.5	1.6	100.0
Francisco						
Spring	59.3	12.2	15.9	7.1	5.5	100.0
Fall	50.3	13.3	13.6	19.9	2.9	100.0
Horace Mann						
Spring	52.8	5.7	11.0	20.3	4.2	100.0
Fall	57.1	4.4	11.6	21.8	5.1	100.0
James Lick						
Spring	37.4	8.4	11.2	23.4	19.6	100.0
Fall	44.0	8.5	10.2	22.9	14.4	100.00
John Swett						
Spring	27.4	32.2	13.1	13.6	13.1	100.0
Fall	30.2	22.1	18.8	18.1	10.8	100.0
Portola						
Spring	39.8	10.5	8.2	25.7	15.8	100.0
Fall	37.4	9.0	10.6	24.6	18.4	100.0
Presidio						
Spring	66.2	7.9	5.6	13.5	6.8	100.0
Fall	61.6	6.8	9.9	17.0	4.7	100.0
Roosevelt						
Spring	58.5	16.5	11.4	11.4	2.2	100.0
Fall	54.6	16.0	14.1	12.6	2.7	100.0
TOTAL Spring	54.5	12.7	11.4	14.7	6.7	100.0
Fall	52.2	12.8	12.7	16.6	5.7	100.0

An examination of Tables VIIIand IX ' reveals the following facts.

1. In the fall term there were fewer classes with more than 35 pupils than there were in the preceding term.
2. In the fall term there were more classes with from 30 to 35 pupils than in the preceding term.
3. In the fall term there were fewer classes with less than 20 pupils than in the preceding term.

In conclusion it may be said that in view of the fact that there are fewer teachers, more classes, and a lower median class size in the present term, than in the preceding term, the condition shown by this study is indicative of excellent management in program making and program administration in junior high schools of San Francisco.

4. In mathematics is 40.5 ranging from 45.5 at Presidio to 33.7 at John Swett.

5. In social science is 40.7 ranging from 44.7 at Presidio to 34.5 at John Swett.

6. In commercial is 34.1 ranging from 40.0 at Aptos to 27.5 at Horace Mann.

7. In art is 26.0 ranging from 28.7 at Daniel Webster to 20.0 at James Lick.

8. In home economics is 23.3 ranging from 26.6 at Everett to 18.3 at Portola.

9. In industrial arts is 24.5 ranging from 29.8 at Everett to 21.9 at John Swett.

10. In music is 40.5 ranging from 50.0 or more at James Lick to 29.1 at John Swett.

11. In physical education is 42.3 ranging from 50.3 or more at Everett to 33.7 at James Lick.

12. In all classes is 35.7 ranging from 40.0 at Aptos to 28.3 at Portola.

If all the junior high school classes are distributed in five categories, namely classes with 35 or more, classes with 30 to 34 pupils, classes with 25 to 29 pupils, classes with 20 to 24 pupils, and classes with less than 20 pupils, they would appear as shown in the tables following. Table VIII shows the distribution of the number of classes in the five categories for the spring term and for the fall term, 1932, by schools. Table IX shows the same data reduced to percentages.

TABLE VIII
NUMBER OF CLASSES IN EACH CATEGORY

SCHOOL	SIZE OF CLASS 35 or over	30 to 34	25 to 29	20 to 24	Less than 20	Total
Aptos Spring	172	25	20	38	19	274
Fall	177	37	32	29	12	287
Dan. Webster						
Spring	54	17	10	20	10	111
Fall	44	29	12	16	6	107
Everett						
Spring	199	59	68	46	5	377
Fall	204	63	57	43	6	373
Francisco						
Spring	160	33	43	19	15	270
Fall	136	36	37	54	8	271
Horace Mann						
Spring	154	15	29	54	11	263
Fall	157	12	32	60	14	275
James Lick						
Spring	40	9	12	25	21	107
Fall	52	10	12	27	17	118
John Swett						
Spring	42	50	20	21	20	153
Fall	45	33	28	27	16	149
Portola						
Spring	68	18	14	44	27	171
Fall	67	16	19	44	33	179
Presidio						
Spring	225	27	19	46	23	340
Fall	199	22	32	55	15	323
Roosevelt						
Spring	159	45	31	31	6	272
Fall	143	42	37	33	7	262
TOTAL Spring	1273	298	266	344	157	2338
Fall	1224	300	298	388	134	2344

Bulletin #47

X

SAN FRANCISCO PUBLIC SCHOOLS
BUREAU OF EDUCATIONAL RESEARCH AND SERVICE
Moulder Building, Page and Gough Streets

[San Francisco (City + County) Board of Education. Bureau of Research, Guidance and Education, Evening Schools]

CLASS SIZE

SAN FRANCISCO HIGH SCHOOLS

Fall Term - 1932-1933

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Bureau of Educational Research and Service

October - 1932

CLASS SIZE
SAN FRANCISCO SENIOR HIGH SCHOOLS
FALL TERM, 1932-1933

The data which formed the basis of this study were derived from the teacher programs submitted by the teachers of the high schools in August, 1932.

Table I is a distribution of class size by departments.

TABLE I

Class Size by Departments for All Schools

CLASS SIZE	Art	Commercial	English	Language	Household Arts	Industrial Arts	Mathematics	Mechanical Drawing	Music	Physical Ed. Boys	Physical Ed. Girls	Science	Social Science	R.O.T.C.	Total
50 & over	-	-	-	-	-	-	-	-	10	69	56	-	-	12	147
45-49	-	7	3	2	-	-	-	-	3	24	48	2	10	3	102
40-44	1	111	43	47	5	-	28	-	9	25	32	5	105	5	416
35-39	14	132	147	77	14	-	77	-	13	15	26	23	109	1	648
30-34	35	70	169	75	27	1	74	12	18	10	20	82	83	2	678
25-29	45	36	87	62	41	112	28	48	15	4	23	153	27	2	683
20-24	32	17	32	45	20	25	18	35	14	-	17	75	8	-	338
15-19	2	3	1	3	-	1	3	1	3	-	7	4	1	2	31
10-14	-	-	1	3	-	-	2	1	-	-	-	3	-	-	10
5-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-		-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	129	376	483	314	107	139	230	97	85	147	229	347	343	27	3053
MEDIAN	28.4	37.3	33.5	31.7	29.0	26.3	34.1	26.2	32.9	49.0 \46.1	43.3	27.9	37.4	47.5	33.4

On the last line of the table, the median class-size is shown for each department and for all departments, ranging from 26.2 in mechanical drawing to 47.5 in R. O. T. C. with 33.4 as the median class-size for all classes. Practically, one may say that about one-half of the classes in the high schools have more, and about one-half of the classes have less than 33 pupils.

The above tabulation also shows that there are 41 classes with less than 20 pupils, and 338 classes having from 20 to 24 pupils. These small classes are distributed among the various departments as shown in Table II, following.

TABLE II

Small Classes by Departments

Department	Number of Classes with less than 20 pupils	Number of Classes having from 20 to24 pupils
	Academic	
English	2	32
Social Science	1	8
Mathematics	5	18
Language	6	45
Science	7	75
Total Academic	21	178
	Non-Academic	
Commercial	3	17
Industrial Arts	1	25
Household Arts	-	20
Art	2	32
Mechanical Drawing	2	35
Music	3	14
Physical Education	7	17
R. O. T. C.	2	-
Total Non-Academic	20	160
Grand Total	41	338

Table III which follows is a distribution of class size by schools.

TABLE III

Class Size by Schools

Class Size	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Polytechnic	Total
50 & over	25	20	25	5	18	30	24	147
45-49	15	22	20	10	12	13	10	102
40-44	66	99	70	9	61	43	68	416
35-39	89	107	147	24	96	102	83	648
30-34	130	86	117	45	94	110	96	678
25-29	112	59	143	55	99	112	103	683
20-24	43	27	66	63	36	18	85	338
15-19	1	1		19	4	1	5	31
10-14			2	7			1	10
5-9								
1-4								
TOTAL	481	421	590	237	420	429	475	3053
MEDIAN	33.2	36.7	33.5	27.6	33.7	33.7	32.2	33.4

On the last line of the above table is shown the median class size for each school, ranging from 27.6 at Girls to 36.7 at Commerce.

The 41 classes with less than 20 pupils and the 338 classes having from 20 to 24 pupils are distributed by schools as follows in Table IV. The classes of the 7th and 8th grades at Girls High School are not included in this study.

TABLE IV
Small Classes by Schools

SCHOOL	Number of Classes with less than 20 pupils	Number of Classes having from 20 to 24 pupils
Balboa	1	43
Commerce	1	27
Galileo	2	66
Girls	26	63
Lowell	4	36
Mission	1	18
Polytechnic	6	85
TOTAL	41	338

Table V is a tabulation showing the number of classes for each department, in academic departments, in commercial departments, in non-academic departments excluding commercial classes, in physical education, and in the total of all classes by schools.

TABLE V

Number of Classes in Each Department - by Schools

Department	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Polytechnic	TOTAL
English	82	63	83	37	76	68	74	483
Social Science	47	42	64	18	67	56	49	343
Mathematics	33	28	53	13	39	27	37	230
Modern Language	52	41	59	35	67	25	35	314
Science	44	31	96	18	73	37	48	347
Total Academic	258	205	355	121	322	213	243	1717
Commercial	57	108	63	88	12	71	37	376
Industrial Arts	29	--	34	--	--	35	41	139
Household Arts	31	15	13	19	--	12	17	107
Art	16	12	21	13	20	16	31	129
Mech. Drawing	14	9	21	--	6	17	30	97
Music	18	8	8	7	16	11	17	85
R. O. T. C.	4	4	4	--	6	3	6	27
Total Non-Academic	169	156	164	67	60	165	179	960
Physical Ed.	54	60	71	49	38	51	53	376
GRAND TOTAL	481	421	590	237	420	429	475	3053

Galileo and Lowell high school classes commonly meet four times a week. Classes in all other high schools meet five times a week.

All schools include grades 9 to 12 except Mission which has grades 10 to 12. Girls High school has grades 7 to 12, but only grades 9 to 12 are included in this bulletin.

Table VI is a similar tabulation, showing the median class-size for each department in academic departments, in commercial departments, in non-academic departments, excluding commercial, in physical education, and in total of all classes by schools.

TABLE VI

Median Class-Size by Schools and by Departments
Fall Term - 1932-1933

Department	Balboa	Com-merce	Gal-ileo	Girls	Low-ell	Mis-sion	Poly-technic	TOTAL
English	33.3	36.1	33.7	27.3	34.1	32.8	34.7	33.5
Social Science	36.5	40.8	37.3	32.5	36.6	38.1	37.0	37.4
Mathematics	35.2	32.0	35.6	28.5	36.3	35.8	32.8	34.1
Modern Language & Latin	34.3	31.8	33.6	25.5	32.5	33.5	35.3	31.7
Science	26.8	31.0	28.2	23.1	25.7	30.5	27.3	27.9
Academic Median	33.4	35.0	33.0	27.4	32.6	34.0	33.4	33.1
Commercial	39.2	38.6	36.8	33.7	38.3	35.6	39.6	37.3
Industrial Arts	27.5	---	26.8	---	---	27.5	25.3	26.9
Household Arts	26.6	33.5	31.2	26.0	---	33.5	31.5	29.0
Art	27.5	28.3	26.2	23.7	33.1	32.0	27.9	28.4
Mech. Drawing	31.5	24.5	26.2	---	26.6	27.5	23.1	26.2
Music	30.0	40.0	42.5	27.5	34.1	42.5	28.1	32.9
R. O. T. C.	47.5	47.5	50.0	---	35.0	51.2	47.5	47.5
Non-Academic Median	29.4	37.2	29.5	27.8	33.5	31.7	27.5	30.7
Physical Ed.	48.3	47.5	46.2	28.4	47.9	45.9	45.9	46.1
MEDIAN FOR ALL	33.2	36.7	33.5	27.6	33.7	33.7	32.2	33.4

A ranking of schools according to median class-size in academic classes, non-academic classes, in commercial classes, in physical education, and in all classes is shown by Table VII which follo

TABLE VII*

Academic			Non-Academic		
School	Median Class Size	Rank	School	Median Class Size	Rank
Commerce	35.0	1	Commerce	37.2	1
Mission	34.0	2	Lowell	33.5	2
Balboa	33.4	3.5	Mission	31.7	3
Polytechnic	33.4	3.5	Galileo	29.5	4
Galileo	33.0	5	Balboa	29.4	5
Lowell	32.6	6	Girls	27.8	6
Girls	27.4	7	Polytechnic	27.5	7
Average	33.1			30.7	
Commercial			Physical Education		
Polytechnic	39.6	1	Balboa	48.3	1
Balboa	39.2	2	Lowell	47.9	2
Commerce	38.6	3	Commerce	47.5	3
Lowell	38.3	4	Galileo	46.2	4
Galileo	36.8	5	Mission	45.9	5.5
Mission	35.6	6	Polytechnic	45.9	5.5
Girls	33.7	7	Girls	27.6	7
Average	37.3			46.1	

Total in All Classes

School	Median Class Size	Rank
Commerce	36.7	1
Lowell	33.7	2.5
Mission	33.7	2.5
Galileo	33.5	4
Balboa	33.2	5
Polytechnic	32.2	6
Girls	27.6	7
Average	33.4	

*Note: In making comparisons, the type and character of the school must be considered. The number of classes in the departments of each school (see Table V) is also a factor.

Table VIII shows the median class-size by departments in San Francisco for four terms: Spring, 1930-31; Fall, 1931-32; Spring, 1931-32; and Fall term 1932-33.

TABLE VIII

DEPARTMENT	San Francisco			
	Spring 1930-1931	Fall 1931-1932	Spring 1931-1932	Fall 1932-1933
Art	26.1	26.0	26.6	28.4
Commercial	35.4	34.4	33.3	37.3
English	31.6	32.6	32.5	33.5
Language	29.6*	30.2**	30.9**	31.7**
Household Arts	27.6	25.9	26.6	29.0
Industrial Arts	25.5	25.9	27.1	26.9
Mathematics	32.3	32.1	32.3	34.1
Mechanical Draw'g	24.8	24.1	25.0	26.2
Music	29.3	31.7	30.0	32.9
Physical Ed.	43.4	42.5	42.8	46.1
Science	26.7	26.2	26.9	27.9
Social Science	35.5	34.9	35.0	37.4
R. O. T. C.	--	--	--	47.5
Median of all Departments	31.4	31.3	31.5	33.4

*Does not include Latin
**Includes Latin

If all the high school classes be distributed in five class-sizes, namely classes with less than 20 pupils, 20 to 24 pupils, 25 to 29 pupils, 30 to 34 pupils, and more than 35 pupils, they would appear as follows in Tables IX and X. Table IX shows the distribution by number of classes, by schools; and Table X shows the percentage of classes in each of the five class-sizes by schools.

TABLE IX
Number of Classes in Each Class-Size

Size of Class	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Polytechnic	TOTAL
35 or over	195	248	262	48	187	188	185	1313
30-34	130	86	117	45	94	110	96	678
25-29	112	59	143	55	99	112	103	683
20-24	43	27	66	63	36	18	85	338
Less than 20	1	1	2	26	4	1	6	41
TOTAL	481	421	590	237	420	429	475	3053

TABLE X
Percentage of Classes in Each Class-Size

Size of Class	Balboa	Commerce	Galileo	Girls	Lowell	Mission	Poly-Technic	TOTAL
35 or over	40.6	60.0	44.0	20.3	44.5	43.8	38.9	43.0
30-34	27.0	20.5	19.8	18.9	22.4	25.6	20.2	22.2
25-29	23.2	13.0	24.3	23.3	23.6	26.2	21.7	22.4
20-24	09.0	06.3	11.2	26.6	08.6	04.2	17.9	11.1
Less than 20	00.2	00.2	00.3	10.9	00.9	00.2	01.3	01.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The following figures show the comparative percentages in the five class-sizes for the spring term, 1930-1931; the fall term 1931-1932; the spring term, 1931-1932; and the fall term, 1932-1933.

Size of Class	All High School Classes Spring Term 1930-31	All High School Classes Fall Term 1931-32	All High School Classes Spring Term 1931-32	All High School Classes Fall Term 1932-33
35 or over	33.10	33.40	33.00	43.00
30-34	23.20	22.60	24.50	22.20
25-29	23.00	23.60	24.20	22.40
20-24	17.40	18.00	16.50	11.10
Less than 20	3.30	2.40	1.80	1.30

Class Size - San Francisco Continuation School

The following table shows the distribution of classes in the San Francisco Continuation School by departments. Each class listed in the distribution meets once per week, the length of the period being two clock hours.

TABLE XI
Class Size - San Francisco Continuation School

Class Size	Commercial	English for Foreigners	English	Home Economics	Mathematics	Social Science	Technical subjects	Total	Per Cent
50 or over	3	--	1	--	--	--	--	4	
45-49	4	--	2	--	1	3	1	11	
40-44	16	--	5	1	5	4	--	31	22.70
35-39	25	2	10	2	3	3	6	51	
30-34	26	6	8	6	3	7	8	64	15.10
25-29	8	5	17	14	6	1	15	66	15.60
20-24	41	27	28	27	7	21	40	191	44.90
15-19	--	--	--	1	--	--	--	1	
10-14	--	--	2	4	--	--	--	6	1.70
5-9	--	--	--	--	--	--	--	0	
1-4	--	--	--	--	--	--	--	0	
TOTAL	123	40	73	55	25	39	70	425	100.00
MEDIAN	32.4	23.7	26.9	24.1	29.5	24.6	24.3	26.0	

There are 7 classes with an enrollment of less than 20 pupils, distributed among the departments as follows:

English	2
Home Economics	5
Total	7

The median size of all classes is 26.0, ranging from 32.4 in Commercial to 23.7 in English for Foreigners. The median size of all classes for the fall term, 1932-33,, is 26.0 as compared with 30.3 for the spring term 1931-32.

The following tabulation shows the percentage of classes of several sizes for the spring term, 1930-31; and the fall term, 1931-32; the spring term 1931-32; and the fall term, 1932-33.

Size of class	Per Cent of All Classes Continuation School			
	Spring, 1930-1931	Fall, 1931-1932	Spring, 1931-1931	Fall, 1932-1933
35 or over	12.30	13.50	35.50	22.70
30-34	12.10	10.70	15.70	15.10
25-29	16.00	22.30	15.90	15.60
20-24	52.90	26.50	27.30	44.90
Less than 20	6.70	17.00	5.60	1.70